

**Final
Environmental Assessment
Implementation of 2005 Base Realignment and Closure
Recommendation 133
(Washington Headquarters Services)
Fort Belvoir, Virginia**



prepared by
U.S. Army Corps of Engineers, Mobile District

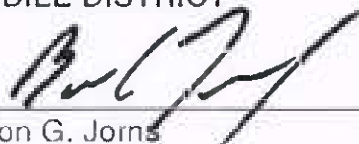
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**ENVIRONMENTAL ASSESSMENT
IMPLEMENTATION OF 2005 BASE REALIGNMENT AND CLOSURE
(BRAC) RECOMMENDATION 133 AT FORT BELVOIR, VIRGINIA**

Prepared by:

**U.S. ARMY CORPS OF ENGINEERS
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FINAL ENVIRONMENTAL ASSESSMENT

TITLE OF PROPOSED ACTION: Implementation of 2005 Base Realignment and Closure (BRAC) Recommendation 133 at Fort Belvoir, Virginia

LEAD AGENCY: Department of the Army

AFFECTED JURISDICTION: Fairfax County, Virginia, and the City of Alexandria, Virginia

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APPROVED BY: H. T. Landwermeyer, Jr., Brigadier General, U.S. Army, Director, Operations, Assistant Chief of Staff for Installation Management

ABSTRACT: This Final Environmental Assessment (EA) considers the proposed relocation of 6,409 personnel associated with BRAC Commission Recommendation 133 to Fort Belvoir, Virginia. The EA identifies, evaluates, and documents the effects of three alternatives for facility construction, maintenance, management, and renovation on the environment and economic and social conditions at the alternative sites and surrounding areas that would result from the implementation of actions mandated by BRAC 133. A No Action Alternative is also evaluated to establish the environmental baseline against which the alternatives are analyzed. Implementation of the proposed action is not expected to result in significant environmental impacts. Therefore, preparation of an Environmental Impact Statement is not required and a Finding of No Significant Impact (FNSI) will be published in accordance with the National Environmental Policy Act.

EA PUBLICATION: The EA and draft FNSI are available for review and comment for 30 days. A Notice of Availability of the documents was published in the Fairfax County Times, Alexandria Times, Mount Vernon Voice, Mount Vernon Gazette, and Belvoir Eagle on July 10, 2008 and the Washington Post on July 13, 2008; the document review period will end, therefore, on August 13, 2008. For additional information concerning the EA, please contact Mr. Don Carr, Fort Belvoir Director of Public Affairs, 9820 Flagler Road Suite 201, Fort Belvoir, Virginia 22060-5610, phone number (703)805-2583 (or by e-mail at donald.carr@conus.army.mil). Copies have also been provided to the libraries listed in Section 6 of the EA. The EA is available on the following Web sites: <http://www.belvoirbrac-eis.net> and http://www.hqda.army.mil/acsim/brac/env_ea_review.htm. Written comments on the EA and Draft FNSI are to be submitted by mail to Fort Belvoir BRAC, ATTN: BRAC 133 EA Comments, 10306 Eaton Place, Suite 340, Fairfax, Virginia, 22030; by email to brac133eacommments@tetrattech.com; or submitted online at <http://www.belvoirbrac-eis.net> no later than August 13, 2008.

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment addresses the proposed action to implement BRAC Recommendation 133 at Fort Belvoir, Virginia. It has been developed in accordance with the National Environmental Policy Act and implementing regulations issued by the Council on Environmental Quality (Title 40 *Code of Federal Regulations* [CFR] 1500–1508) and the Army (32 CFR 651). Its purpose is to inform decision-makers and the public of the likely environmental and socioeconomic consequences of the proposed action and alternatives.

An **EXECUTIVE SUMMARY** briefly describes the proposed action, environmental and socioeconomic consequences, and mitigation measures.

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- SECTION 3.0:** **AFFECTED ENVIRONMENT AND CONSEQUENCES** describes the existing environmental and socioeconomic settings for the alternative sites and identifies potential effects of implementing the proposed action.
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EXECUTIVE SUMMARY

INTRODUCTION

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended numerous realignment and closure actions for domestic military installations. President Bush concurred with the 2005 BRAC Commission's report and sent it to Congress on September 15, 2005. On November 9, 2005, the recommendations became law, and they must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510, as amended).

This environmental assessment (EA) evaluates the potential environmental and socioeconomic impacts of realigning the units, agencies, and activities known as BRAC Commission Recommendation Number 133 (BRAC 133) to Fort Belvoir, Virginia. The various elements of BRAC 133, which consists of miscellaneous Department of Defense (DoD), Defense Agency, and Field Activities, are currently located in leased facilities within the National Capital Region (NCR).

In June 2007 the Army published its *Final Environmental Impact Statement (EIS) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendation and Related Army Actions at Fort Belvoir, Virginia*. On August 7, 2007, the Army issued a Record of Decision (ROD) that deferred decisionmaking on the disposition of BRAC 133 to Fort Belvoir. The EIS evaluated proposals for facilities for BRAC 133 at the Engineer Proving Ground (EPG) and Main Post. Having been evaluated in the EIS, those locations are not evaluated again in this EA. They remain potentially available for selection. If either EPG or Main Post are to be selected for BRAC 133, such selection will be done through a supplemental ROD rather than subsequent to this EA. Therefore, EPG and Main Post are outside the scope of this EA.

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The proposed action is to relocate approximately 6,409 personnel under BRAC 133, including Washington Headquarters Services (WHS), to Fort Belvoir. The purpose of the proposed action is to provide administrative space for the units, agencies, and activities collectively known as BRAC 133. The need for the proposed action is to carry out BRAC directives as required by law.

SCOPE

This EA identifies, documents, and evaluates the environmental effects of BRAC in accordance with the National Environmental Policy Act of 1969 (NEPA) and implementing regulations issued by the President's Council on Environmental Quality (CEQ) and the Army. The purpose of the EA is to inform decisionmakers and the public of the likely environmental consequences of the proposed action and alternatives.

PROPOSED ACTION AND ALTERNATIVES

The Army proposes to relocate the 6,409 personnel under BRAC 133 from various leased offices throughout northern Virginia into Army-owned space. The action would eliminate the use of approximately 1,850,000 square feet of leased administrative space within the NCR and relocate personnel and functions to Fort Belvoir. Relocation of BRAC 133 would require up to 1.8 million square feet of existing or newly-constructed administrative and specific-function space, and 1.3 million square feet of associated parking facilities.

Three alternative sites for implementing the proposed action were considered and evaluated in detail in the EA. These alternatives were acquisition, construction, and operation of

administrative facilities at a warehouse site owned by the General Services Administration (GSA) in Springfield, Virginia (Alternative A); acquisition and operation of administrative facilities at a privately owned office complex on Eisenhower Avenue in Alexandria, Virginia, called the Victory Center (Alternative B); and acquisition and operation of administrative facilities at a privately owned office complex at the intersection of Seminary Road and Interstate 395 (I-395) in Alexandria called the Mark Center (Alternative C). Other alternatives included four additional sites that were assessed and ultimately rejected for not conforming to Army relocation criteria, and were therefore not evaluated in detail. As prescribed by the CEQ Regulations, the EA also evaluated the No Action Alternative, in which BRAC 133 agencies would not be relocated, but rather would remain where they are.

ENVIRONMENTAL CONSEQUENCES

The EA evaluates potential effects on land use, aesthetics and visual resources, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics (including environmental justice and protection of children), transportation, utilities, and hazardous and toxic substances. For each resource, the predicted effects from all the siting alternatives as well as the No Action Alternative are briefly described below. Evaluation of the proposed action for all the alternatives indicates that the physical and socioeconomic environments at the GSA site, Victory Center, Mark Center, and cumulatively in the ROI would be minor and not be significantly affected by the long-term and/or permanent adverse effects from the proposed action. The consequences of the alternatives, including the No Action Alternative, are summarized in Table ES-1.

Summary of Consequences

Land Use. Long-term negligible to minor but not significant adverse and beneficial effects on land use would be expected for the GSA site, and no effects would be expected for the Victory Center or Mark Center from implementation of BRAC 133. The long-term minor adverse effects under the GSA site alternative would be associated with the amount of square footage needed for BRAC 133, which would exceed the 1.2 million ft² called for under Fairfax County's Comprehensive Plan guidelines, but its proposed multiple buildings of up to 15 stories would be consistent with the character of commercial land uses in Springfield. For the Victory Center and Mark Center alternatives, the BRAC 133 office complex would be consistent with the current municipal zoning and existing commercial office space themes of the sites. The current building at the Victory Center would be hardened to meet the required distance to unsecured roadways required under anti-terrorism/force protection (AT/FP) requirements. Any of the alternatives would require consistency with National Capital Planning Commission (NCPC) guidelines prior to implementation. Based upon the information, data, and analysis as contained in this EA, the Army determined that the proposed action is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Program (VCP).

Transportation. Long-term minor adverse effects on transportation under the GSA site, Victory Center, and Mark Center alternatives would be expected due to BRAC 133. Implementation of the potential transportation improvements that have been identified in conjunction with the proposed action would not result in significant adverse environmental effects. Improvements were identified at locations where traffic levels of service (LOSs) would have substantial decreases or would drop to failing levels as a result of the proposed action. These improvements were then grouped as site access, improvements to the local roads, and improvements to the regional transportation infrastructure. The local improvements at all three sites that would be

Table ES-1
Summary of potential environmental and socioeconomic consequences

Resource Area	Environmental and Socioeconomic Consequences				No Action Alternative
	GSA Site	Victory Center	Mark Center		
Land Use	Long-term negligible to minor adverse and beneficial; not significant	No effects	No effects		No effects
Transportation	Long-term minor adverse; not significant	Long-term minor adverse; not significant	Long-term minor adverse; not significant		No effects
Air Quality	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant		No effects
Noise	Short-term minor adverse and long-term negligible adverse; not significant	Short-term minor adverse and long-term negligible adverse; not significant	Short-term minor adverse and long-term negligible adverse; not significant		No effects
Geology and Soils					
Geology/Topography	No effects	No effects	No effects		No effects
Soils	Short-term minor adverse	Short-term minor adverse	Short- and long-term minor adverse; not significant		No effects
Prime Farmland	No effects	No effects	No effects		No effects
Water Resources					
Surface Water and Groundwater	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse; not significant		No effects
Floodplains, Coastal Zone	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse; not significant		No effects
Biological Resources					
Vegetation	No effects	No effects	Long-term minor adverse; not significant		No effects
Wildlife	Short- and long-term negligible adverse; not significant	Short- and long-term negligible adverse; not significant	Short- and long-term negligible to minor adverse; not significant		No effects
Threatened and Endangered Species	No effects	No effects	No effects		No effects
Wetlands	No effects	No effects	No effects		No effects
Cultural Resources	No effects	No effects	No effects		No effects
Socioeconomics					
Economic Development	Short- and long-term minor beneficial	Short- and long-term minor beneficial	Short- and long-term minor beneficial		No effects
Housing	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse		No effects
Law Enforcement, Fire Protection, and Medical Services	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse		No effects
Schools	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant		No effects

Table ES-1
Summary of potential environmental and socioeconomic consequences (continued)

Resource Area	Environmental and Socioeconomic Consequences			
	GSA Site	Victory Center	Mark Center	No Action Alternative
<i>Socioeconomics (continued)</i>				
Services, Shops, and Recreation	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Environmental Justice	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Protection of Children	No effects	No effects	No effects	No effects
Aesthetics and Visual Resources	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse	No effects
Utilities	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Hazardous and Toxic Substances	No effects	No effects	No effects	No effects

required to return to and maintain the existing LOS would specifically complement the proposed action and include the addition of turn lanes, the installation or modification to traffic signals, and revised signing and marking to improve traffic flow. At a regional level, the impacts from the proposed action are relatively minor when compared to the current plans for the areas surrounding each site. However, all the alternatives would contribute to the need for improvements to the surrounding transportation systems. The GSA site alternative would be directly responsible for the widening of Metropolitan Center Drive and the improvements to the intersections of Metropolitan Center Drive with Loisdale Road. Conversely, the Victory Center and Mark Center have been approved for redevelopment by the City of Alexandria and will be occupied with or without the BRAC 133. Additional access to both sites is already part of regional plans and fewer additional transportation mitigation measures are required, making these sites available and more suitable from a transportation perspective for occupation by BRAC 133. Development at all three sites conforms to regional planning, and transportation improvements considered necessary to support the developments have been identified. Over the next ten years, it is likely that all three sites will be developed regardless of the decision on where to site BRAC 133. Needed or desired improvements are at varying stages in the project development, approval, and funding process. The Army would seek Defense Access Roads (DAR) certification to fund site access and local improvements for the GSA site alternative. If DAR certification were not received for all the projects, the Army would seek direct funding of the projects through the Congressional appropriation process. Without approval of the foregoing, the Army would not proceed with the GSA site alternative. These improvements at the Victory Center and Mark Center sites would be included as part of proffers for development of those sites. The Army would also seek to secure shuttle bus service from the Mark Center to Metro stations. A transportation mitigation measure for all the alternatives is promotion of alternative transit measures such as ridesharing to offset a parking space cap on-site. These measures would be discussed in a Transportation Management Plan (TMP) to be implemented as part of the proposed action.

Air Quality. Short- and long-term minor but not significant adverse effects on air quality would be expected under all the alternatives. For the GSA site alternative, estimated air emissions from the proposed action were analyzed under the City Center Alternative in the *Final General Conformity Determination (GCD) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia* published in July 2007. Under the GSA site alternative being analyzed in this EA, the building size is smaller and construction schedule is unchanged when compared to the Fort Belvoir BRAC GCD. It would be expected that the emissions impact associated with this alternative would be less than that described in the GCD. Unlike the GSA site alternative, the Victory Center and Mark Center alternatives were unforeseeable alternatives at the time the Fort Belvoir BRAC GCD was written and therefore are distinctly different activities from the situation outlined in the GCD. Increases in emissions under these two alternatives would be *de minimis*, would not introduce localized carbon monoxide (CO) concentrations greater than the National Ambient Air Quality Standards (NAAQS), and would not be expected to contribute to a violation of any federal, state, or local air regulations. Therefore a Record of Non-applicability (RONA) is appropriate for these alternatives.

Noise. Short-term minor and long-term negligible adverse effects on the noise environment would be expected under any of the alternatives. Long-term adverse effects would not be expected to be significant as long-term operational noise levels from the BRAC 133 complex would be consistent with typical administrative facilities and would remain below local noise ordinance levels. The short-term increase in noise would result primarily from the use of heavy construction equipment. Long-term negligible adverse effects could occur due to noise from continued operational and remote inspection facility (RIF) activities from implementation of BRAC 133, similar to existing warehouse traffic and truck deliveries on the GSA site.

Geology and Soils. No effects on geology, topography, or prime farmlands would be expected. Short-term minor adverse effects on soils would be expected from construction activities under any of the GSA site, Victory Center, or Mark Center alternatives, and long-term minor adverse effects on soils would occur from increased sedimentation due to a greater amount of runoff from an increase in impervious surfaces under the Mark Center alternative. However, adverse effects would not be significant as adherence to state erosion control guidelines and the use of BMPs and existing downstream storm water and sediment control facilities would occur.

Water Resources. Short-term minor adverse and long-term minor beneficial effects on surface waters, groundwater, floodplains, and the coastal zone would be expected under either the GSA site or Victory Center alternatives, and short- and long-term minor adverse but not significant effects would be expected under the Mark Center alternative. Short-term minor adverse effects due to increased sediment in runoff could occur during land disturbance activities associated with construction and demolition activities and redevelopment. Such effects would be minimized through the use of construction-specific best management practices (BMPs) and development of site-specific plans for sediment and erosion control and storm water runoff during construction. The GSA site and Victory Center alternatives would have long-term beneficial effects resulting from minor reductions in impervious surfaces following redevelopment of each site and implementation of storm water management and control plans and procedures. The Mark Center alternative would have long-term minor adverse effects from increased runoff as a result of a greater amount of impervious surfaces associated with development of the area from forested land to an office park. However, effects would not be expected to be significantly adverse because of the use of BMPs and storm water pollution prevention planning, adherence to state erosion control guidelines, and implementation of storm water and water quality management plans such as described in the approved preliminary site development plans. Such practices

would be expected to result in no violations of water quality standards and no substantial detrimental effect on downstream biological resources.

Biological Resources. Short- and long-term negligible adverse effects on wildlife would be expected for both the GSA site and Victory Center alternatives, and short- and long-term negligible to minor but not significant adverse effects would be expected for the Mark Center alternative. Effects would not be expected to be significantly adverse because no permanent loss of a substantial amount of forested areas, wildlife habitat, or wetlands relative to existing conditions in the region and no take of sensitive species would occur. Construction activities could cause noise that would have a short-term minor adverse effect on wildlife, and long-term negligible to minor adverse effects could be expected to wildlife due to noise from increased operational and RIF activities, primarily related to traffic and truck deliveries. On the GSA site, the few trees in the proposed construction footprint would be avoided or their loss offset by the addition of new landscaping features added throughout the site. Long-term minor adverse effects to vegetation on the Mark Center would be expected from removal of much of the forested areas in the BRAC 133 footprint with a central area remaining forested with landscaped trees. Long-term negligible to minor adverse effects to wildlife on and adjacent to the Mark Center would be expected because of loss of habitat due to the planned development and because of noise from increased operational activities related to traffic and truck deliveries. There would be no effects on sensitive species or wetlands as none are present in the footprints of any of the alternatives, and onsite BMPs would help protect downstream riparian areas, water quality, and other resources, notably the Anadromous Fish Use Areas on Accotink Creek and Cameron Run.

Cultural Resources. No effects on cultural resources would be expected under any of the alternatives, pending potential re-survey of the Mark Center BRAC 133 footprint for archaeological resources and review and verification by Alexandria Archaeology and the Virginia State Historic Preservation Officer (SHPO). Should BRAC 133 proceed with the Mark Center alternative, the re-survey would be performed by the current owner of the Mark Center property. No archaeological sites were identified in the footprint in a 1994 Phase I archaeological survey. No Traditional Cultural Properties (TCPs), Native American sacred sites, or burials are known to exist on or near any of the alternative sites. All the sites have been evaluated for historic and archaeological resources, and none were identified. The potential for effects on unknown cultural and historical resources is always present, but adherence to policies and guidelines in Army regulations and consultation with the SHPO would be conducted as necessary to avoid potential adverse effects.

Socioeconomics. Short- and long-term minor but not significant adverse effects as well as short- and long-term minor beneficial effects on socioeconomics would be expected to occur from implementation of any of the alternatives. All jurisdictions within the ROI would experience less than a 1 percent increase above current population projections, so these potential population changes would be considered minor but not significantly adverse. The worst-case scenario of the relocation of half of the BRAC 133 employees within the ROI would have short-term minor adverse effects on housing, law enforcement, fire protection, medical services, family support, social services, shops and services, and recreation until municipal and private sector services would be able to respond to an increase in population in the area with increases in these services. It must be noted that the 6,409 employees in the BRAC 133 jobs represent a portion of the total 19,300 jobs being realigned to Fort Belvoir, and analysis conducted for the entire Fort Belvoir BRAC action (see Section 4.10.2 of the Fort Belvoir BRAC EIS). The increase in population in the ROI for any of the alternatives could also have short- and long-term minor adverse effects on schools due to an increase in students, and that increase is a portion of the schools analysis conducted in the Fort Belvoir BRAC EIS (USACE, 2007a). However, an employee's decision to

move would depend on many factors such as commuting time, changing a child's school, or the cost of moving. Where an employee might decide to move is primarily dependent upon available housing and influenced by housing market conditions, the cost of housing, and household income. Construction of new housing would depend on the available land and whether or not the local county or city governments would permit the new housing to be built. Similarly, determining need for school capacity is a function of zoning and planning that ensures capacity in a given neighborhood is consistent with the amount of available housing in that neighborhood, regardless of where the residents themselves may be employed. The employees and their families moving in likely would not reside in a single location, but would be distributed across the ROI, characteristic of the NCR where federal employees, whose jobs are concentrated in various work centers, live throughout the ROI. It should also be noted that jobs would leave the ROI due to other cumulative BRAC actions, which would reduce potential effects from Fort Belvoir BRAC actions, including BRAC 133. In the case of Fairfax County, this is estimated to result in a net increase of 266 students across the County (see Section 3.13.3.9). Personnel and their families leaving the ROI from other regional BRAC actions would offset the personnel and their families relocating within the region, reducing or offsetting potential effects on population and schools. All of the alternatives would have short- and long-term minor beneficial effects on economic development related to construction activities on the sites and the draw of ancillary businesses to the area. Short-term minor adverse effects would be expected on environmental justice populations due to noise from construction activities under all the alternatives.

Aesthetics and Visual Resources. Short-term minor but not significant adverse and long-term minor beneficial effects on aesthetics and visual resources would be expected under the GSA site and Victory Center alternatives, and short- and long-term minor adverse effects would be expected under the Mark Center alternative. Effects would not be expected to be significantly adverse because no alteration or impairment of visual quality not consistent with federal, regional, state, and local planning and zoning guidelines would occur. Adverse effects would occur from construction activities, which can be inherently displeasing. Development of an office complex for BRAC 133 would improve aesthetic quality at the GSA site from the current commercial/light industrial warehouse use. The renovation, new construction, and new landscaping associated with the developments would be expected to improve long-term aesthetic quality under the GSA site and Victory Center alternatives. Due to the moderate aesthetic quality of the existing Mark Center site due to vegetative cover and landscaping, the construction of additional office buildings would be expected to have a long-term minor adverse effect on the aesthetic quality of the site.

Utilities. Short-term minor adverse effects on utilities would be expected under any of the GSA site, Victory Center, or Mark Center alternatives. Short-term minor adverse effects would be the result of service interruptions during construction while new and renovated facilities are being hooked up to existing utilities systems.

Hazardous and Toxic Substances. No effects on hazardous or toxic substances would be expected under any of the alternatives.

Consequences of the No Action Alternative

No effects on any of the resource areas considered in this EA would be expected to result from implementation of the No Action Alternative.

CUMULATIVE EFFECTS

Short- and long-term minor but not significant adverse and beneficial cumulative effects would be expected for all the alternatives. These would be associated with the varied development

projects occurring in the ROI during the BRAC timeframe. Four major projects are approved or planned within one mile of the GSA site, three within one mile of Victory Center, and four within one mile of Mark Center. The major projects in the vicinity of the GSA site include the mixed-use Boston Properties development, Springfield Mall Expansion, Springfield Campus Elderly Housing and Nursing Facilities, and the National Geospatial-Intelligence Agency (NGA) facility at EPG. In addition, warehouse space located elsewhere, likely within the NCR, would need to be secured for GSA to house the materials currently stored in Building A if the GSA site was chosen to accommodate BRAC 133. The major projects near Victory Center include the Cameron Station Phase VII mid-rise apartment complex, Cameron Station Phase VI townhouse development, and All-City sports facility. The major projects near Mark Center include the Beauregard-Armistead Towns housing development, two high-rise condominium projects (Halstead Tower and Northampton Place) and Landmark Mall Expansion. Many other projects are small in scale and would have only a negligible effect on the environment as a whole. The proposed projects would be expected to have short- and long-term minor adverse cumulative impacts on the following resources: transportation, air quality, water resources, biological resources, cultural resources, socioeconomic, aesthetics and visual resources, and utilities. Cumulative activities in the region would also be expected to have short- and long-term beneficial impacts on the following resources: land use, water resources, and cultural resources.

MITIGATION

Section 1508.20 of the Council on Environmental Quality's implementing regulations for NEPA define mitigation to include: (a) Avoiding the impact altogether by not taking a certain action or parts of an action, (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment, (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and (e) Compensating for the impact by replacing or providing substitute resources or environments.

Best management practices (BMPs) for the proposed BRAC 133 project would be undertaken in accordance with existing regulations, policies, and guidelines. Such regulatory or policy-driven actions or sound engineering practices to reduce, avoid, or compensate for adverse effects would include, for example, following all applicable laws and regulations for handling all hazardous materials and wastes; implementing state-approved, BMPs for storm water control during construction; designing facilities according to the principles of low-impact development; recycling construction debris where possible; and revegetating disturbed sites. Sound engineering practices and BMPs, current and future, would be used to the maximum extent practicable to mitigate any adverse environmental impacts and are listed in Table ES-2.

Mitigation measures that the Army is considering to minimize, avoid, or compensate adverse environmental effects of implementing the proposed action are also listed in Table ES-2. Mitigation generally does not include legal, regulatory, or policy-driven environmental protections required to comply with federal and state laws or Army policies. Mitigation measures for transportation have been listed in Table ES-2 for all alternatives, and mitigation measures for air quality have been included for the GSA site alternative only. For the transportation mitigation measures, the Army would seek DAR certification to fund projects directly supporting the alternatives. If DAR certification were not received for all the projects, the Army would seek direct funding of the projects through the Congressional appropriation process. Without approval of the foregoing, the Army would not proceed with the GSA site alternative.

CONCLUSIONS

Based on the analysis performed in this EA, implementation of the proposed action under the GSA site, Victory Center, or Mark Center alternatives would have no significant direct, indirect, or cumulative effects on the quality of the natural or human environment. Preparation of an EIS is not required. Issuance of a Finding of No Significant Impact (FNSI) would be appropriate.

Table ES-2
Summary of BMPs and mitigation measures

Resource Area	BMPs	Mitigation
Land Use	All alternatives <ul style="list-style-type: none"> Follow DoD AT/FP standards during site design. Incorporate low impact development (LID) principles into site layout. 	<ul style="list-style-type: none"> None
Transportation	All alternatives <ul style="list-style-type: none"> Route and schedule construction vehicle traffic to minimize conflicts with other traffic. Strategically locate construction material staging areas to minimize traffic impacts. Incorporate traffic-calming measures (e.g., speed humps, raised crosswalks, center islands) in the vicinity of the site. Incorporate overall design improvements, such as walkways and bicycle paths, to reduce reliance on vehicles and to create more connected pedestrian-friendly communities. 	GSA site alternative <ul style="list-style-type: none"> Expand Metropolitan Center Drive to four lanes and expand GSA site entrance intersections with Loisdale Road to allow for turn movements. Construct a direct connection from the Franconia-Springfield Parkway via Spring Mall Drive to the GSA site, which would alleviate congestion on Loisdale Road. Improve the I-95 northbound to eastbound Fairfax County Parkway off-ramp/Loisdale Road intersection. Implement signal and turn lane improvements at surrounding intersections. Negotiate with adjacent property owners to allow BRAC 133 personnel to use proposed shuttle bus system and pedestrian walkway between Metropolitan Center Drive and Franconia-Springfield Metro station. Victory Center alternative <ul style="list-style-type: none"> Install a traffic signal for at least one Victory Center driveway location. Implement traffic signal timing and phasing modifications, along with turn lanes and other minor physical improvements, at intersections adjacent to the site. Mark Center alternative <ul style="list-style-type: none"> Improve Mark Center Drive to increase capacity.

(continued below)

Table ES-2
Summary of BMPs and mitigation measures *(continued)*

Resource Area	BMPs	Mitigation
Transportation (continued)		<ul style="list-style-type: none"> Construct a third left turn lane from northbound Seminary Road to westbound North Beauregard Street. Construct a second left turn lane from westbound North Beauregard Street to Mark Center Drive. Construct a second right turn lane from Mark Center Drive to southbound Seminary Road <p>All alternatives</p> <ul style="list-style-type: none"> Develop and staff a TMP to manage travel demand to the site and encourage use of transit by BRAC 133 personnel. Encourage alternative transit measures, such as ridesharing, to offset parking space cap on site.
Air Quality	<p>All alternatives</p> <ul style="list-style-type: none"> Use water or chemicals for dust control when demolishing existing buildings or structures, construction operations, grading roads, or clearing land. Apply water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces that could create airborne dust. Pave roadways and maintain them in a clean condition. Install and use hoods, fans, and fabric filters to enclose and vent the handling of dusty material, including the implementation of adequate containment methods during sandblasting or other similar operations. Cover open equipment used to convey materials likely to create air pollutants. Promptly remove spilled or tracked dirt from streets. Sequence construction activities in a manner that would avoid multiple projects using heavy construction equipment on the same day. 	<p>GSA site alternative</p> <ul style="list-style-type: none"> Limit construction on Code Orange, Red, and Purple ozone days. Limit use of off-road trucks on the project site. Require all off-road diesel equipment not meeting Tier 2 or better standards be retrofitted with emission control devices. Implement anti-idling restrictions for both on-road and off-road vehicles and equipment. Use Ultra-Low Sulfur Diesel (ULSD), alternate fuels, or fuel additives. Meet new engine standards for off-road vehicles.
Noise	<p>All alternatives</p> <ul style="list-style-type: none"> Limit construction activities to daylight hours. Use sound-dampening construction equipment and materials to attenuate noise. Maintain vegetative buffers for noise attenuation. 	<ul style="list-style-type: none"> None

Table ES-2
Summary of BMPs and mitigation measures (continued)

Resource Area	BMPs	Mitigation
Geology and Soils	All alternatives <ul style="list-style-type: none"> • Use state-approved BMPs to reduce soil erosion and sedimentation. • Adhere to SWPPPs and any plans or guidance, as appropriate, per the NPDES General Permit and MS4 processes. 	<ul style="list-style-type: none"> • None
Water Resources	All alternatives <ul style="list-style-type: none"> • Implement BMPs to control surface erosion and runoff (e.g., silt fencing, hay bales). • Construct temporary construction sediment retention ponds as required. • Reseed and revegetate areas following construction activities to minimize effects. All alternatives <ul style="list-style-type: none"> • Use LID practices where possible. • Follow protocols outlined in state sediment and erosion control guidelines. • Implement site-specific SWPPP in accordance with Fort Belvoir's storm water program and MS4 permit. 	<ul style="list-style-type: none"> • None
Biological Resources	All alternatives <ul style="list-style-type: none"> • Limit disturbed areas to the footprint plus a minimal amount of adjacent construction staging area. • Revegetate disturbed areas with native, indigenous vegetation. <p>Plant native trees and drought-tolerant vegetation near open spaces and around storm water management structures.</p> <p>Limit land disturbance on each land parcel to no more than what is necessary for the desired use or development.</p>	<ul style="list-style-type: none"> • None
Cultural Resources	All alternatives <ul style="list-style-type: none"> • Implement stop work procedures to allow for documentation of findings if previously unknown archaeological resources are discovered during construction activities. 	<ul style="list-style-type: none"> • None
Socioeconomic Resources	All alternatives <ul style="list-style-type: none"> • Secure construction vehicles and equipment when not in use. • Place barriers and "No Trespassing" signs around construction sites where practicable. 	<ul style="list-style-type: none"> • None
Aesthetics and Visual Resources	All alternatives <ul style="list-style-type: none"> • Revegetate site with native vegetation. 	<ul style="list-style-type: none"> • None

Table ES-2
Summary of BMPs and mitigation measures (continued)

Resource Area	BMPs	Mitigation
Utilities	<p>All alternatives</p> <p><i>Potable water</i></p> <ul style="list-style-type: none"> • Train staff and contractors on water conservation measures. • Install water-efficient control devices, such as low-flow showerheads, faucets, and toilets, in all new facilities. <p><i>Energy</i></p> <ul style="list-style-type: none"> • Install energy-efficient interior and exterior lighting fixtures and controls in all new units. All new units would be built to EnergyStar energy efficiency standards. Achieve the LEED Silver standard. • Promote energy conservation and reduced utility consumption through the utility program developed by the Army. <p><i>Solid waste disposal and recycling</i></p> <ul style="list-style-type: none"> • Train staff and contractors on materials eligible for recycling municipal solid waste. • Recycle construction and demolition debris to the maximum extent feasible. • Recycle municipal solid waste collected from office locations. 	<ul style="list-style-type: none"> • None
Hazardous and Toxic Substances	<p>GSA site alternative</p> <ul style="list-style-type: none"> • Implement measures to control airborne asbestos. • Conduct testing for petroleum and PCBs in soils and groundwater, and asbestos, LBP, and PCBs in structures, before construction activities begin, and address the presence of these contaminants in accordance with applicable local, state, and federal regulatory requirements. • Evaluate and dispose of demolition materials in accordance with applicable local, state, and federal regulations at the time of demolition. <p>All alternatives</p> <ul style="list-style-type: none"> • Store all hazardous material in accordance with regulations and implement a Hazard Communication Program that will include training personnel in proper handling of hazardous materials. • Document all hazardous material to be used and maintain copies of Material Safety Data Sheets (MSDS). • Ensure hazardous wastes are removed and properly disposed of in accordance with applicable local, state, and federal regulations. 	<ul style="list-style-type: none"> • None

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SECTION 1.0

PURPOSE, NEED, AND SCOPE

1.1 INTRODUCTION

On September 8, 2005, the Defense Base Closure and Realignment Commission (BRAC Commission) recommended numerous realignment and closure actions for domestic military installations. President Bush concurred with the 2005 BRAC Commission's report and sent it to Congress on September 15, 2005. On November 9, 2005, the recommendations became law, and they must be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510, as amended).

This environmental assessment (EA) evaluates the potential environmental and socioeconomic impacts of realigning the units, agencies, and activities known as BRAC Commission Recommendation Number 133 (BRAC 133), including Washington Headquarters Services (WHS), to Fort Belvoir, Virginia. The various elements of BRAC 133, which consists of miscellaneous Department of Defense (DoD), Defense Agency, and Field Activities, are currently located in leased facilities within the National Capital Region (NCR).

1.2 PURPOSE AND NEED

The proposed action is to relocate approximately 6,409 personnel of BRAC 133 to Fort Belvoir. The purpose of the proposed action is to provide administrative space for the units, agencies, and activities collectively known as BRAC 133. The need for the proposed action is to carry out BRAC directives as required by law.

1.3 SCOPE

This EA identifies, documents, and evaluates the environmental effects of realignment activities in accordance with the National Environmental Policy Act of 1969 (NEPA) and implementing regulations issued by the President's Council on Environmental Quality (CEQ) and the Army.¹ The purpose of the EA is to inform decisionmakers and the public of the likely environmental consequences of the proposed action and alternatives. The range of actions, alternatives, and impacts considered in this EA are intertwined with the requirements for BRAC analysis. As further described in the EA, the scope is the geographic areas potentially affected by the realignment activities, as well as the areas of potential effects, which vary by resource.

The Defense Base Closure and Realignment Act of 1990 specifies that NEPA does not apply to actions of the President, the Commission, or the Department of Defense, except "(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated" (Public Law 101-510, as amended, Sec. 2905(c)(2)(A)). The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned

¹ *Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*, Title 40 of the *Code of Federal Regulations* (CFR) Parts 1500–1508, and *Environmental Analysis of Army Actions*, 32 CFR Part 651.

do not have to consider “(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected (Sec. 2905(c)(2)(B)). The BRAC Commission’s deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA. Accordingly, this EA does not address the need for realignment.

The BRAC law requires that units, agencies, and activities that have been directed to realign to Fort Belvoir be stationed on land under Army administrative control of Fort Belvoir. To provide an opportunity for the Army to relocate personnel to a site other than one that is part of Fort Belvoir, Congress enacted Section 2708 of the National Defense Authorization Act for Fiscal Year 2008. That section provides that the Administrator of the U.S. General Services Administration (GSA) may transfer administrative control to the Army all or part of a GSA-controlled site in Springfield, Virginia. It authorized the relocation of personnel scheduled to go to Fort Belvoir under BRAC to either Fort Belvoir, the GSA parcel in Springfield, or other parcels of land purchased in fee in the vicinity of Fort Belvoir. Section 2708 is provided in Appendix A. Actions related to the relocation of GSA functions and construction of replacement facilities are excluded from the scope of this EA.

In June 2007 the Army published its *Final Environmental Impact Statement (EIS) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendation and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007a). On August 7, 2007, the Army issued a Record of Decision (ROD) that deferred decisionmaking on the disposition of BRAC 133 to Fort Belvoir. The EIS evaluated proposals for facilities for BRAC 133 at the Engineer Proving Ground (EPG) and Main Post. Having been evaluated in the EIS, those locations are not evaluated again in this EA. They remain potentially available for selection. If EPG or Main Post are to be selected for BRAC 133, such selection will be done through a supplemental ROD rather than subsequent to this EA. Therefore, consideration of EPG and the Main Post for BRAC 133 is outside the scope of this EA.

1.4 PUBLIC INVOLVEMENT

The Army invites public participation in the NEPA process. Consideration of the views and information of all interested persons and entities promotes open communication and enables better decisionmaking. All agencies, organizations, and members of the public having a potential interest in the proposed action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decisionmaking process.

Public participation opportunities with respect to this EA and decisionmaking on the proposed action are guided by Title 32 of the *Code of Federal Regulations* (CFR) Part 651. Upon completion, the EA, along with a draft Finding of No Significant Impact (FNSI), will be made available to the public for 30 days. At the end of the 30-day public review period, the Army will consider any comments submitted by individuals, agencies, or organizations on the proposed action, the EA, or the draft FNSI. As appropriate, the Army may then execute the FNSI and proceed with implementing the proposed action. If it is determined before a final FNSI is issued that implementation of the proposed action would result in significant impacts, the Army will publish in the *Federal Register* a notice of intent to prepare an EIS, commit to mitigation actions sufficient to reduce impacts to below significant levels, or not take the action.

Throughout this process, the public may obtain information on the status and progress of the proposed action and the EA by contacting Mr. Don Carr, Fort Belvoir Director of Public Affairs, 9820 Flagler Road Suite 201, Fort Belvoir, Virginia 22060-5610, phone number (703)805-2583 (or by e-mail at donald.carr@conus.army.mil)..

On September 18, 2007, the Army mailed letters informing the public of the proposed action. The letters solicited the views of agencies, organizations, and individuals concerning the scope of the EA. The Army received replies from Pierce R. Homer, Secretary of Transportation, Commonwealth of Virginia; Gerald E. Connolly, Chairman, Fairfax Board of Supervisors; Nancy-Jo Manney and William D. Lecos, on behalf of the South County Coalition; Kahan Singh Dhillon, Jr., Chairman, Mount Vernon-Lee Chamber of Commerce; Jason C. Rodriguez, Hilton Springfield; Sherry Dana, President, U.S.A. Groups, Inc.; Laura Escamilla, Corner Cuisine; Neal McBride, Secretary, South Run Coalition; Roger Shipley, Program Manager Air, Naval Air Systems Command; Denise Johnson, Youngstown, Ohio; and Dr. Deborah Mower, Youngstown State University. The scoping letter and responses are included in Appendix B.

Principal matters that correspondents sought for inclusion in the scope of the EA include:

- Efforts to reduce automobile trips to avoid daily multi-hour traffic delay,
- Planning for the use of rail and bus services,
- Access to potential sites for accommodating BRAC 133,
- Potential use of multiple sites to meet BRAC 133 accommodation requirements,
- Preference for the GSA site, and
- Identification of and commitment to mitigation, especially with respect to traffic impacts.

Preparation of this EA has included subject matter experts' consideration of all scoping comments received from agencies, organizations, and individuals.

1.5 IMPACT ANALYSIS PERFORMED

An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians has analyzed the proposed action and alternatives in light of existing conditions and has identified relevant beneficial and adverse effects associated with the action. The proposed action and alternatives, including the No Action Alternative, are described in Section 2.0. Existing conditions are described in Section 3.0, Affected Environment and Environmental Consequences. The expected effects of the proposed action, also described in Section 3.0, are presented immediately following the description of baseline conditions for each environmental resource addressed in the EA. Mitigation actions are identified for each aspect of the proposed action, as appropriate. Cumulative effects are discussed at the end of Section 3.0. Section 4.0 presents the Conclusions of the EA. Sections 5 through 8 provide the List of Preparers, Distribution List, References, and Acronyms and Abbreviations. Appendices include Section 2708 of the National Defense Authorization Act for Fiscal Year 2008 (Appendix A), Scoping Letters and Agency Coordination (Appendix B), Coastal Zone Management Act (CZMA) Consistency Determination (Appendix C), and supporting documentation for transportation, air quality, and socioeconomics (Appendices D through F).

The resources addressed in this EA are land use, transportation, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomic resources, visual resources, utilities, and hazardous and toxic materials.

1.6 REGULATORY FRAMEWORK

1.6.1 BRAC Procedural Requirements

As noted in Section 1.3, the Defense Base Closure and Realignment Act of 1990 specifically addresses the applicability of NEPA to actions of the BRAC Commission and to actions of the President in approving or disapproving the BRAC Commission's recommendations, as well as the Congressional waiver of the procedural elements of NEPA where the actions of the DoD and the BRAC Commission in recommending bases for closure and realignment are concerned. The BRAC Commission procedures for identifying affected installations and bases are specified by this law. They include the DoD Force Structure Plan, selection criteria that were published in the *Federal Register* for public comment, DoD recommendations, review and recommendations by the BRAC Commission, and review by the President.

The Defense Base Closure and Realignment Act of 1990 requires that all closures and realignments must be initiated by no later than 2 years after the date on which the President transmits a report to Congress including the recommendations for closures and realignments (Pub. L. 101-510, as amended, Sec. 2904 (a)(3)) and completed by no later than the end of the 6-year period beginning on the same date (Pub. L. 101-510, as amended, Sec. 2904(a)(4)). President Bush concurred with the 2005 BRAC Commission's report and sent it to Congress on September 15, 2005. Therefore, the BRAC actions must be completed by no later than September 15, 2011.

1.6.2 Defense Access Roads Program

The Defense Access Roads (DAR) program, authorized at Title 23 of the *United States Code* (U.S.C.) Section 210, provides a means by which the federal government can pay its fair share of the cost of highway improvements needed for adequate highway service to defense and defense-related installations. Administered jointly with the Federal Highway Administration (FHWA), the DAR program provides a means for DoD to work with the state and local authorities that execute the projects. Funding for DAR projects may be obtained through Military Construction Programs funds appropriated by Congress.

To initiate a DAR project, the Army must identify the access or mobility needs of an installation and bring such deficiencies to the attention of the Surface Deployment and Distribution Command (SDDC). In turn, SDDC prepares a needs evaluation or requests the FHWA to make an evaluation, in accordance with 23 CFR Part 660E, for improvements that are necessary; develop a cost estimate; and determine the scope of work. The SDDC determines whether the project is eligible for funding pursuant to the DAR program and certifies the road as important to the national defense. Upon certification, the Army may request funding through its normal budgeting process. Once funds are provided by Congress, they are transferred to the FHWA and allocated to the agency administering the project.

1.6.3 Relevant Statutes and Executive Orders

A decision on whether to proceed with the proposed action rests on numerous factors, such as mission requirements, schedule, availability of funding, and environmental considerations. In

addressing environmental considerations, the Army is guided by relevant statutes (and their implementing regulations) and Executive Orders that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act, Clean Water Act, Noise Control Act, Endangered Species Act, National Historic Preservation Act, Archaeological Resources Protection Act, Resource Conservation and Recovery Act, and Toxic Substances Control Act. Executive Orders bearing on the proposed action include Executive Order 11593 (Protection and Enhancement of the Cultural Environment), Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), Executive Order 12088 (Federal Compliance with Pollution Control Standards), Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), Executive Order 13045 (Protection of Children from Environmental Health Risks and Safety Risks), and Executive Order 13423 (Strengthening Federal Environmental, Energy, and Transportation Management). These authorities are addressed throughout this EA when relevant to particular environmental resources and conditions. Full descriptions for these laws, regulations, and Executive Orders are available on the Defense Environmental Network & Information Exchange Web site at <http://www.denix.osd.mil>.

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SECTION 2.0

PROPOSED ACTION AND ALTERNATIVES

The Army proposes to realign BRAC 133 to Fort Belvoir. The proposal would involve relocating approximately 6,409 personnel who now work in several office buildings in northern Virginia. This section identifies alternatives for implementing the proposed action, as well as the No Action Alternative.

The Proposed Action would co-locate approximately 6,409 BRAC 133 personnel from various leased offices throughout northern Virginia into Army-owned space. The action would eliminate the use of approximately 1,850,000 square feet of leased administrative space within the NCR and relocate personnel and functions to Fort Belvoir.

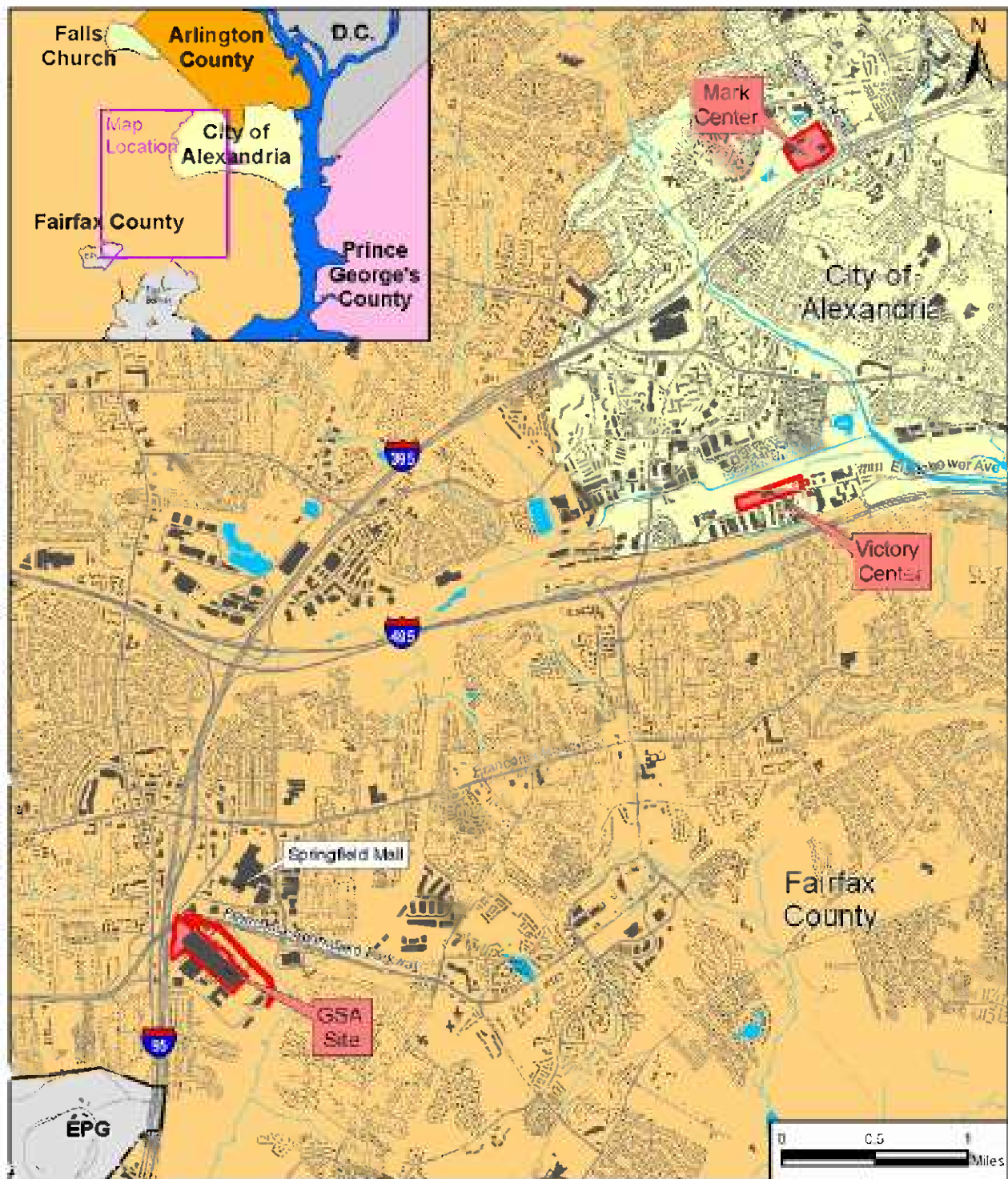
Relocation of BRAC 133 would require existing or newly-constructed administrative and specific-function space. Approximately 1,426,000 square feet of general purpose administrative space would be required. Approximately 353,000 square feet of specific-function space would be needed for access control, training, conference, engineering support, security operations, special compartmented information, network operations, remote inspection, remote delivery, storage, and personnel support (i.e., cafeteria, sundries shop, physical fitness, etc). In addition, approximately 1,300,000 square feet of structured parking would be required to accommodate 60 percent of the commuting workforce. Configuration of a campus setting to accommodate the foregoing facilities would have to conform to anti-terrorism and force protection requirements of Unified Facilities Criteria 4-010-01, and facilities would have to conform to Uniform Federal Accessibility Standards and National Fire Protection Association code requirements.

2.1 ALTERNATIVE A: RELOCATION TO THE GSA SITE

Under Alternative A, 6,409 personnel constituting BRAC 133 would be relocated to a portion of the GSA's warehouse site, comprising approximately 47.9 acres, at 6999 Loisdale Road in Springfield, Virginia (the GSA site). Figure 2-1 shows the locations of the alternative sites for BRAC 133, and Figure 2-2 shows the proposed BRAC 133 footprint on the GSA site. The following actions would be required to implement Alternative A:

- *Transfer of administrative control.* Pursuant to Section 2708 of the National Defense Authorization Act for Fiscal Year 2008 (Pub. L. 110-181, January 28, 2008), the Administrator of GSA and the Secretary of the Army would enter into an agreement to transfer administrative jurisdiction of the GSA site to the Army. The Army would then designate the transferred portion of the GSA site as part of Fort Belvoir.²
- *Demolition of existing facilities.* Building A, a GSA warehouse with approximately 1 million square feet of space, would be demolished to make room for construction of new administrative space and ancillary facilities. The demolition, which would be dependent on GSA's departure from the facility, would be expected to occur as early as December 2009.

² Present federal agency occupants of Building A would relocate to other facilities in the NCR. Other major buildings at the GSA Site are Building B and Building C. These portions of the GSA site would not be acquired by the Army, and federal agency tenants now using those buildings would remain tenants of GSA.



LEGEND

- Alternative Site Boundary
- City of Alexandria
- Fairfax County

BRAC 133 Alternative Site Locations

Source: Fairfax County GIS, 2006; City of Alexandria GIS, 2007.

Figure 2-1



LEGEND

Proposed GSA Site BRAC 133 Footprint

GSA Site

Source: Fairfax County GIS, 2006

Figure 2-2

- *Construction of new facilities.* The Army would construct new facilities to accommodate BRAC 133 personnel. The facilities would consist of multiple office and special function buildings of up to 15 stories and having approximately 1.8 million square feet, and approximately 1.3 million square feet of structured parking to accommodate 3,845 vehicles, or 60 percent of the workforce.
- *Construction of road improvements.* Through the DAR program, the Army would seek to fund a set of road improvements to Loisdale Road to improve site ingress and egress as described in Section 3.2.

2.2 ALTERNATIVE B: RELOCATION TO VICTORY CENTER

Under Alternative B, 6,409 personnel constituting BRAC 133 would be relocated to Victory Center, a 16-acre site at 5001 Eisenhower Avenue in Alexandria, Virginia (Figure 2-3). Victory Center consists of one office building with approximately 530,000 square feet; the remainder of the site is paved for parking. The following actions would be required to implement Alternative B.

- *Acquisition.* Victory Center is owned by Prudential Real Estate Investors. To meet the requirement of the law that BRAC 133 be realigned to Fort Belvoir, the Army would have to acquire the Victory Center site, and the site would have to be designated part of Fort Belvoir.
- *Transfer of facilities.* The existing building on Victory Center is currently being renovated by its owners. Prior to the Army's acquisition of Victory Center, the Army would have the owners construct additional general purpose administrative space, specific-function space, and structured parking as described in Section 2.0. This construction would have to meet Army requirements and specifications.
- *Construction of new facilities.* The Victory Center owner would construct new facilities to accommodate BRAC 133 personnel. End-state facilities would consist of multiple office and special function buildings of up to 15 stories and having approximately 1.8 million square feet, and approximately 1.3 million square feet of structured parking to accommodate 3,845 vehicles, or 60 percent of the workforce.
- *Construction of road improvements.* Minor road improvements, consisting of a new traffic signal and new turning lanes to ensure safe traffic flow and site ingress and egress, would be required.

2.3 ALTERNATIVE C: RELOCATION TO MARK CENTER

Under Alternative C, 6,409 personnel constituting BRAC 133 would be relocated to Mark Center, a 24-acre site at the intersection of Seminary Road and I-395 in Alexandria, Virginia (Figure 2-4). Mark Center facilities currently consist of two office buildings having a total of approximately 450,000 square feet. The following actions would be required to implement Alternative C.

- *Acquisition.* Mark Center is owned by Duke Realty Corporation. To meet the requirement of the law that BRAC 133 be realigned to Fort Belvoir, the Army would have to acquire the Mark Center site, and the site would have to be designated part of Fort Belvoir.



LEGEND

Victory Center Site Boundary

Victory Center Site

Source: City of Alexandria GIS, 2007; Jones Lang LaSalle, 2007

Figure 2-3



LEGEND

Mark Center Site Boundary

Mark Center Site

Source: City of Alexandria GIS, 2007.

Figure 2-4

- *Transfer of facilities.* The existing buildings at Mark Center are currently in use. Prior to the Army's acquisition of Mark Center, the Army would have the owners construct additional general purpose administrative space, specific-function space, and structured parking as described in Section 2.0. This construction would have to meet Army requirements and specifications.
- *Construction of new facilities.* The Mark Center owner would construct new facilities to accommodate BRAC 133 personnel. End-state facilities would consist of multiple office and special function buildings of up to 15 stories and having approximately 1.8 million square feet and approximately 1.3 million square feet of structured parking to accommodate 3,845 vehicles, or 60 percent of the workforce.
- *Construction of road improvements.* Minor road improvements to improve site ingress and egress would be required.

2.4 RELOCATION TO OTHER SITES

To determine the potential for additional sites to accommodate BRAC 133, on October 4, 2007, the Army issued a Request for Site Availability seeking expressions of interest for the sale to the Government of real property in northern Virginia for the establishment of an administrative office complex. The request for expressions of interest (REI) noted that land or land and existing facilities could be identified, so long as the requisite space could be ready for occupancy not later than June 15, 2011. Proposals could pertain to "as is/where is" facilities or turnkey projects. Criteria established by the Army included:

- Single or multiple structures capable of supporting a minimum of 6,409 personnel (1.8 million gross square feet).
- Remote inspection/delivery facility (minimum 86,000 square feet).
- Parking for 3,845 vehicles.
- Security access control points for screening of employees, visitors, and vehicles.
- Space capable of supporting robust information technology requirements.
- Sustainable design capable of meeting Leadership in Energy and Environmental Design (LEED) of a Silver Rating.
- In Virginia, within one mile of any Metro Station
- Meet DoD anti-terrorism/force protection standards of Unified Facilities Criteria 4-010-01.

The request for expressions of interest closed on November 5, 2007, and produced seven offers. The offers were assessed according to the following criteria.

- Ability to meet the Government's stated facilities, information technology, amenity, and overall infrastructure requirements.
- Overall accessibility of the facility to vehicular traffic and by public transit systems.
- Proximity to the Pentagon.
- Ability to meet Unified Facilities Criteria 4-010-01.
- Schedule for completing finished space ready for occupancy.

- Character of the neighborhood in terms of compatibility of use and availability of amenities.
- For turnkey proposals, financial capability of the offeror to finance and deliver the facilities in accordance with the schedule, as well as experience and technical capabilities of the offeror to deliver the facilities in accordance with the schedule.

Assessment of the offers in accordance with the foregoing evaluation criteria resulted in the Army's determination that two offers – Victory Center and Mark Center – would satisfy the Army's requirements. The following identifies the five offers deemed not to satisfy the Army's requirements:

- Kettler proposed use of Harbor Station, a 2,000-acre development adjacent to the Potomac River in Prince William County.
- American Building Corp. proposed use of Blooms Grove Station, a 115-acre site near the Virginia Railway Express station (Manassas line) in Manassas Park.
- Clark Construction Group, LLC proposed that it construct necessary facilities for the Army but did not propose a specific site.
- Vornado/Charles E. Smith proposed use of a 10-acre site south of Army Navy Drive in Pentagon City.
- Washington Real Estate Investment proposed use of Northern Virginia Industrial Park on the west side of Telegraph Road (near Fort Belvoir).

Use of competitive procedures determined that Victory Center and Mark Center offer best value because of their abilities to satisfy the above requirements. The remaining five proposals did not offer the appropriate balance of conditions essential to fulfilling the implementation objectives for BRAC 133. Further competitive evaluation will occur for Victory Center and Mark Center, and these sites will then be evaluated along with the GSA site. Based on the results of the evaluation, a final site determination will be made.

Based on the foregoing, sites other than Victory Center, Mark Center, and the GSA site for relocation of BRAC 133 are not evaluated in this EA.

2.5 NO ACTION ALTERNATIVE

Inclusion of the No Action Alternative is prescribed by the CEQ regulations and serves as the benchmark which federal actions can be evaluated. No action assumes that the units, agencies, and activities collectively known as BRAC 133 would continue its mission as it existed prior to the passage of the BRAC legislation. Because the BRAC Commission's recommendations now have the force of law, continuation of the BRAC 133 mission is not possible. Although the No Action Alternative is not possible to implement without further Congressional action, it serves as a baseline alternative against which other alternatives can be evaluated.

SECTION 3.0

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 LAND USE

3.1.1 Affected Environment

3.1.1.1 GSA Site

The General Services Administration (GSA) Franconia site is currently not part of Fort Belvoir, and is not categorized by the land use designations that apply to the installation. The GSA site is about two miles north of Fort Belvoir's Main Post. The GSA site consists of 1.5 million square feet (ft²) of warehouse and office space, which would correspond to the Army's Administration & Education and Supply, Storage & Maintenance land use categories. Currently, the property is categorized in the Fairfax County Comprehensive Plan as an I-4 Medium-Intensity Industrial zoning district, which typically allows for development of about 3 million ft² of office/industrial uses at 1.0 floor-to-area ratio (FAR) (Secretary of the Army, 2007). The GSA site is located within the Franconia-Springfield Transit Area identified in the Comprehensive Plan. The county seeks to capitalize on the regional transportation facilities located in the area, including a Metro station, a Virginia Railway Express commuter rail station, a Greyhound bus station, approximately 5,000 parking spaces, and local bus transfer facilities. Specifically, the county envisions roughly 1.2 million ft² of mixed use development on the GSA site (Fairfax County, 2006).

Currently, there are three large and several smaller storage facilities on the GSA site. These buildings were constructed in 1953 and include Building A, which has the largest wooden roof truss system east of the Mississippi (Secretary of the Army, 2007). Building A, the footprint for BRAC 133 development, has approximately 1,000,000 ft² and Buildings B and C have a combined total of 295,000 ft². A former railroad spur connected a freight rail line to the south with the GSA site (see Figure 2-2). This railroad right-of-way (ROW) is still owned by GSA and is included in the BRAC 133 footprint. GSA granted an easement for a local developer to cross the ROW with a shuttle bus road connecting parcels adjacent to the GSA site with the Franconia-Springfield Metro station to the east of the GSA site (see Section 3.2.3.1).

The areas surrounding the GSA site have a variety of land uses. Immediately to the north and northeast, there are residential land uses consisting of townhouse and apartment style housing, followed by the Franconia-Springfield Parkway and then a large commercial land use area, including the Springfield Mall. Commercial and industrial land uses, the Northern Virginia Community College Medical Education Campus, several empty parcels, CSX freight rail line, forested land, and the Franconia-Springfield Metro station are to the east and south. Residential housing and forested land is also to the south, and Loisdale Road and Interstate 95 (I-95) are to the west.

Proposed major projects planned near the GSA site include development of a parcel adjacent to and southeast of the GSA site owned by Boston Properties and expansion of the Springfield Mall. Boston Properties has been approved by Fairfax County to construct a 520,000 ft² mixed use facility, and a re-zoning application is in process to expand the proposal (Fairfax County, 2007). The mall is about 0.5 miles north of the GSA site and was purchased in 2006 by Vornado Realty Trust. The firm plans to add 1.1 million square feet of office space, 2 million square feet of retail, 2,000 residential units and a 225-room hotel on the 82-acre site (Lazo, 2007). Section 3.13

contains additional information about these and other proposed projects in the vicinity of the GSA site as well as proposed projects in the vicinity of the Victory Center and Mark Center.

Major transportation lines constrain development on three sides of the GSA site. These constraints consist of I-95 to the west, the Franconia-Springfield Parkway to the north, and the Metro line and a CSX rail freight line/Amtrak Virginia Railway Express (VRE) line to the east.

3.1.1.2 Victory Center

The Victory Center site is a 16-acre privately owned facility located along the southern boundary of Alexandria, Virginia, on Eisenhower Avenue. The site consists of a 532,903 ft² 10-story building, which is currently being renovated (Eisenhower Real Estate Holdings, 2007). Two additional office buildings totaling about 1 million ft² have been planned to be constructed by the current owner of the Victory Center and approved by the City of Alexandria, along with about 1 million ft² of structured parking. The site is currently zoned for office space and is on a narrow section of land bounded to the north by a rail line and to the south by Eisenhower Avenue. Access to the site is from Eisenhower Avenue, which runs from east to west along the southern boundary of the site. The site is surrounded by a forested area and Norfolk Southern rail yard to the north; commercial and low-rise office land uses to the east; a mixed use area—including newly constructed condominium style housing, a commercial distribution center, and public storage facilities—along with a Metro line and the Capital Beltway to the south; and a United Parcel Service (UPS) employee parking lot and the City of Alexandria's Covanta Waste-to-Energy municipal solid waste incinerator to the west (see Section 3.3.2.2).

3.1.1.3 Mark Center

The Mark Center site is a 24-acre privately owned facility located in the northwest portion of Alexandria, Virginia, at the intersection of Seminary Road and I-395. The site currently consists of forested land and two existing office buildings at 4825 and 4850 Mark Center Drive. The buildings currently house the Center for Naval Analysis Corporation (CNAC) and the Institute for Defense Analyses (IDA). The CNAC building is an 8-story, 214,000 ft² building, and the IDA building is a 10-story, 270,000 ft² building. Up to five additional office buildings totaling approximately 1.35 million ft² are planned to be constructed by the Mark Center developer (Duke Realty Corporation) and have been approved by the City of Alexandria, as well as 1.3 million ft² of structured parking. The site is currently zoned for office space and is part of a larger 350-acre mixed use Mark Center development consisting of residential, hotel, retail, office, and open space. Access to the site is from Mark Center Drive, which connects to Seminary Road to the northeast and North Beauregard Street to the northwest. The site is surrounded by mixed use development to the north, high-rise office and residential buildings to the northeast, I-395 to the southeast, and the 44-acre Winkler Botanical Preserve to the west.

3.1.1.4 Antiterrorism and Force Protection

The proposed sitings for BRAC 133 would take into account force protection requirements for military facilities (DoD, 2007). Force protection is one of the primary drivers for realignment to Fort Belvoir in that agencies would be relocated from non-secure locations to Fort Belvoir in order to meet Department of Defense (DoD) security requirements. Antiterrorism and Force Protection (AT/FP) is considered mission-critical and is considered inviolable. AT/FP involves strictly defined measures to protect these vital services and resources, including personnel, information, and infrastructure from any terrorist attack. AT/FP encompasses four principles: physical security, command and control security, personal security, and law enforcement

operations (Rokosz and Hash, 1998). AT/FP involves public safety, access control, visitor/delivery centers, line of sight, mandatory setback minimum distances, and compatibility with adjacent uses/operations, particularly as they relate to transportation and infrastructure. DoD regulations establish setback and construction requirements on the basis of risk and vulnerabilities of resources/operations in question. Fort Belvoir has developed a security and force protection plan and program designed to meet regulatory guidance.

In terms of land use, AT/FP is addressed by considering the siting of facilities or agencies in relation to their particular needs. The most effective and least disruptive approach to implementing AT/FP measures is to consider them from the beginning of the planning process at each of the alternative sites for BRAC 133. Section 3.2.4 provides additional details on AT/FP.

3.1.1.5 Coastal Zone

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. Section 1451, *et seq.*, as amended) provides assistance to the states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. Section 307(c)(1) of the CZMA stipulates that federal projects that affect land uses, water uses, or coastal resources of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of that state's federally approved coastal management plan.

The Commonwealth of Virginia has developed and implemented a federally approved Virginia Coastal Resources Management Program (VCP). The program brings together a series of laws and policies pertaining to the protection of the Commonwealth's coastal zone. These laws and policies regulate the following areas: tidal and nontidal wetlands, fisheries, subaqueous lands, dunes, point source air pollution, point source water pollution, nonpoint source water pollution, shoreline sanitation, and coastal lands management.

The Commonwealth of Virginia coastal zone includes all of Fairfax County and the City of Alexandria, including the GSA site, Victory Center, and Mark Center. Therefore, federal actions in these areas are subject to federal consistency requirements. The Virginia Department of Environmental Quality (VDEQ) serves as the lead agency for the VCP. Coastal consistency review may be coordinated with the NEPA review process. For coordination with VDEQ, this EA contains the coastal zone management consistency determination for the proposed action in Appendix C.

3.1.2 Environmental Consequences

3.1.2.1 Alternative A: GSA Site

BRAC 133 placement on a 48-acre portion of the GSA site would be expected to have long-term negligible to minor, and therefore not significant, adverse and beneficial effects on land use. The proposed addition of BRAC 133 to the GSA site would raise the FAR to 2.5, which exceeds the FAR of 1.0 under the current county I-4 Medium-Intensity Industrial zoning district limitations. The up to 1.8 million ft² being proposed for BRAC 133 facilities would exceed the 1.2 million ft² of development called for under Fairfax County's Comprehensive Plan guidelines, but its proposed multiple buildings of up to 15 stories (BNVP, 2007) would be consistent with the overall theme of the guidelines and the character of the commercial land use in Springfield. The proposed BRAC 133 facility requires verification of consistency with National Capital Planning Commission (NCPC) guidelines prior to implementation.

The County's Comprehensive Plan does call for eventual mixed-use development of the GSA site. The Army's development of the site for Professional/Institutional uses would not meet this goal directly, but neither would it contravene local planning efforts. Building densities for these sites would be below density levels set in the Comprehensive Plan; however, subsequent high density development of other nearby parcels could cause traffic and access issues that could lead the county to limit or reduce the density of other development projects in the vicinity of those locations (see Section 3.2). The proposed project would be designed to meet AT/FP requirements. If secured facility siting and orientation did not allow for the required distance to unsecured roadways required under AT/FP requirements, the site could be made compliant with the addition of Jersey barriers and other AT/FP augmentation.

The CZMA consistency determination provided in Appendix C identifies minor effects on air quality and water pollution control under the GSA site alternative, similar to the determination of effects in this EA. Based upon the information, data, and analysis as contained in this EA, the Army determined that the proposed action is consistent to the maximum extent practicable with the enforceable policies of the VCP.

3.1.2.2 *Alternative B: Victory Center*

The proposed action under this alternative would be expected to have no effects on land use. BRAC 133 would move into three buildings at Victory Center. The office buildings and structured parking would be constructed to meet Army specifications as identified under the GSA site alternative. Under the Victory Center alternative, the property conveyance would occur before September 2011, after ongoing renovations on the existing building are complete and additional buildings have been constructed. Although the existing building location would be less than the required distance to unsecured roadways required under AT/FP requirements, the site could be made compliant with the addition of Jersey barriers and other AT/FP augmentation. The BRAC 133 complex would fall in line with the current municipal zoning of the site. The use of the area for Professional/Institutional land use would be compatible with surrounding land uses. Consistency with NCPC guidelines would be required prior to implementation. The CZMA consistency determination provided in Appendix C identifies effects similar to that of the GSA site alternative.

3.1.2.3 *Alternative C: Mark Center*

The proposed action under this alternative would be expected to have no effects on land use. BRAC 133 would move into a combination of existing office buildings and newly constructed buildings. Upon completion of construction, the site would consist of up to 1.8 million ft² of office space, with building heights ranging from 9 to 15 stories, as well as up to 1.3 million ft² structured parking. The office buildings and structured parking would be constructed to meet Army specifications as identified under the GSA site alternative. Under the Mark Center alternative, the property conveyance would occur before September 2011, after the additional buildings have been constructed. The BRAC 133 complex at this site would be in accordance with AT/FP requirements. The complex would fall in line with the current municipal zoning of the site. Its proposed multiple buildings of up to 15 stories would be consistent with the overall guidelines for and theme of the character of the commercial land use in the area. Consistency with NCPC guidelines would be required prior to implementation. The CZMA consistency determination provided in Appendix C identifies effects similar to that of the GSA site alternative.

3.1.2.4 No Action Alternative

Under the No Action Alternative, no effects would be expected on land use. Current land uses at both sites would remain the same.

3.1.3 BMPs/Mitigation

Apart from general best management practices (BMPs) listed in Table 3.14-1 in Section 3.14, no mitigation measures for land use would be required with the implementation of the proposed action.

3.2 TRANSPORTATION

3.2.1 Transportation Studies

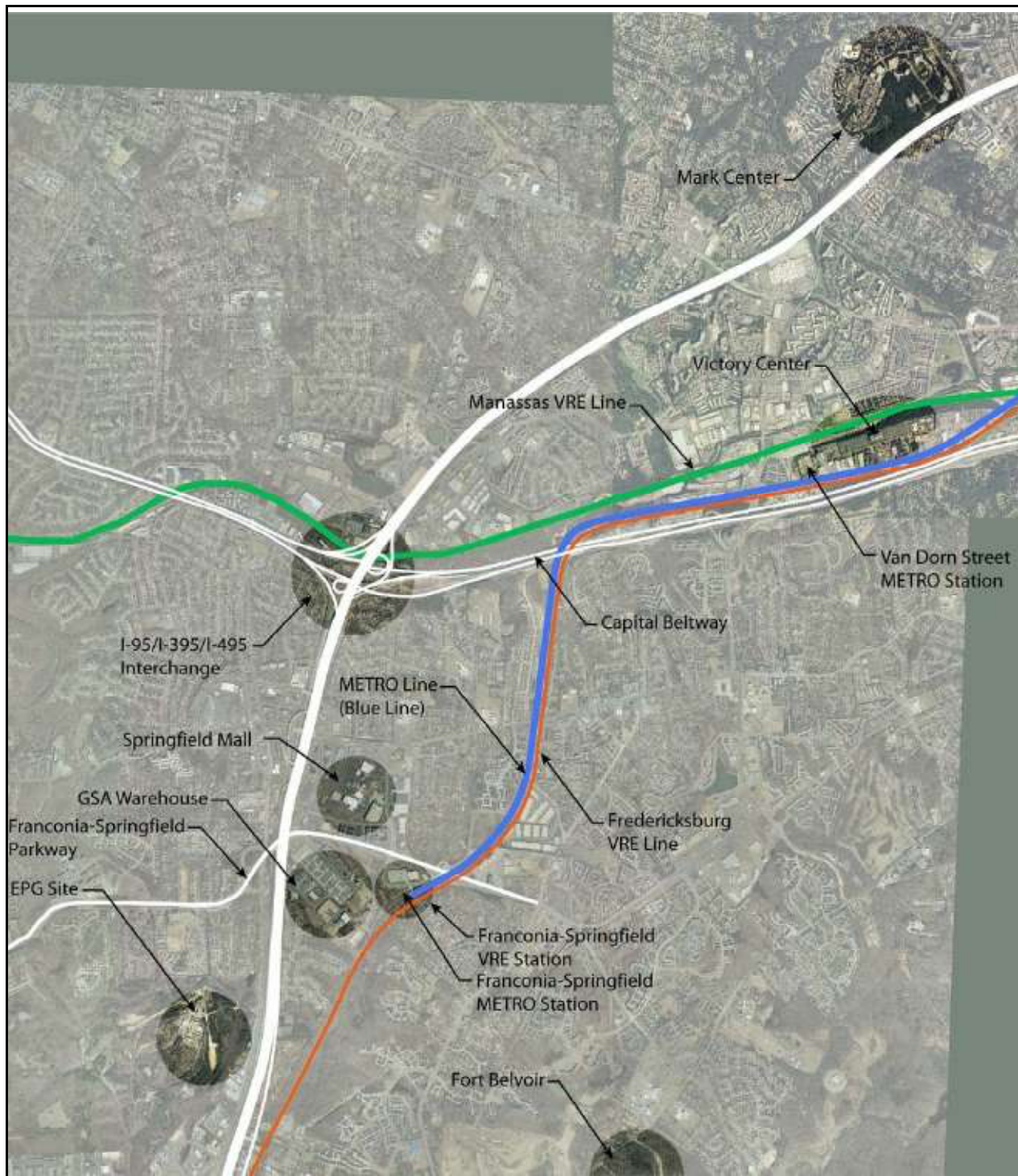
The Congressional Directive regarding the BRAC action and its associated effects requires that the transportation system be studied to determine the impacts that would be expected due to the BRAC action, to identify projects that would mitigate and offset those impacts, and to quantify the needs for new transportation infrastructure. The June 2007 *Final Environmental Impact Statement for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007a) that was prepared in response to this directive identified, evaluated, and documented the effects of four alternatives on the transportation system at Fort Belvoir and surrounding areas that would result from the implementation of the realignment actions mandated by the BRAC Commission. The procedures and methodologies for the transportation analyses in the EIS conformed to the congressional directive.

The EIS concluded that the BRAC action would be expected to have significant effects on the transportation system, regardless of the land use alternative selected, and that the effects of each alternative would vary because of the siting of each of the agencies affected by the BRAC action. Thus, in an effort to distribute the development and minimize the impacts on the regional transportation system, the *Record of Decision for the Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia*, (ROD) dated August 7, 2007 (USACE, 2007a), approved the Preferred Alternative, but deferred the decision on BRAC 133 units, agencies, and activities, under program management by Washington Headquarters Services (WHS), pending additional NEPA documentation.

3.2.1.1 Transportation Analysis and Design

As part of the transportation analysis for BRAC implementation, traffic operations studies are ongoing in support of the planning and design of infrastructure (including transportation systems) and facilities. Information from these activities provided the basis for the transportation analysis for the EIS and will be used for this EA. These studies will continue throughout the planning and design phase; therefore, more detail will become available as they progress. At this point, the studies have been taken to a level of detail sufficient for an EA, thereby allowing for the assessment of the transportation systems and the identification of potential mitigating actions.

The purpose of the traffic analyses in this EA is to determine the effects of relocating 6,409 personnel constituting BRAC 133 to Fort Belvoir and to determine the need for roadway improvements, including additional access points to the proposed sites. As shown in Figure 3-1, all three sites under consideration are located north of Fort Belvoir's Main Post and the



Regional Site Diagram

Figure 3-1

installation's Engineer Proving Ground (EPG) in order to distribute the relocations resulting from the BRAC action and to avoid concentrating the employment in one location. The three sites offer opportunities to mitigate the effects to the regional roadway system. All three sites are served by local and regional bus lines, and the GSA site and Victory Center alternatives are both located within one-half mile of a Metrorail station. The Mark Center site offers free shuttle service for its tenants to the Pentagon City Metro Station, which is located approximately five miles north of the site by traveling along I-395.

Traffic analyses were completed for the 2011 conditions for the No Action Alternative, Alternative A (GSA site), Alternative B (Victory Center), and Alternative C (Mark Center).

Use of the GSA site as a location for BRAC 133 was considered in the Fort Belvoir BRAC EIS (USACE, 2007a) as part of the City Center Alternative. The City Center Alternative assumed that 9,200 employees would be located on the GSA site. The impact on the regional transportation system was documented in the EIS, and improvements were identified that would be required to maintain levels of service comparable to the 2011 No Action Alternative. Travel demand modeling conducted for the EIS found that beyond the immediate vicinity of the sites, the BRAC actions resulted in minor changes in traffic volumes.

A follow-on study of potential redevelopment of the GSA site was completed in March 2007 and found that development with more than 5,000 employees was likely to require additional local improvements to maintain levels of service in the Springfield area (Secretary of the Army, 2007).

The additional transportation analysis completed in support of this EA consisted of a review of travel patterns and approaches to each site and a more focused assessment of the effects of site access and the improvements required within the immediate area surrounding the sites. Guidance on determining the study area for assessing traffic impacts is provided by the Institute of Transportation Engineers (ITE), and the Virginia Code sets the study boundaries based on the anticipated net increase in peak hour vehicle trips over the vehicle trips projected by current or approved development.

The limits of a traffic impact study with less than 1,000 site-generated peak hour trips include the evaluation of all facilities within 2,000 feet of the site and any roadway on which ten percent or more of the new vehicle trips are generated by the proposal, not to exceed two miles. The limits for a traffic impact study with more than 1,000 vehicle trips may encompass a broader study area, to be determined by the Virginia Department of Transportation (VDOT) in consultation with the locality. The preparers of this EA recognize that the transportation analysis conducted for the EA alternatives represents only an initial analysis of improvements as outlined in the Virginia Code and that more detailed analysis is required as design proceeds. The analysis for this EA is limited to determining potential environmental effects of the proposed sites. More detailed studies and design would be conducted in coordination with local, state, and federal agencies as the planning and design of the selected site proceeds.

Assuming a Transportation Management Program (TMP) is in place, the trip generation estimated for each site that would be directly attributed to the BRAC 133 relocation for the evaluation of this EA is shown in Table 3.2-1. In this table, the number of employees that are already at the site, have already been approved by the local jurisdiction, or have already been included in the MWCOC model at the site due to prior approvals would not be attributed to the BRAC relocation as they are already accounted for in the traffic forecasts and operational analyses for the No Action Alternative at that location. Only those trips beyond what is already approved would be added in the evaluation of the proposed action.

Table 3.2-1
BRAC 133 peak hour trip generation with Transportation Management Program

AM peak hour trips	Percent assumed	GSA site	Victory Center	Mark Center
BRAC 133 relocated employees		6,409	6,409	6,409
Approved development		150	4,300	5,050
Net increase in employees at site		6,259	2,109	1,359
Daily reporting employees (assuming 10 percent absent)	90%	5,633	1,898	1,223
Daily visitors		500	500	500
Total persons		6,133	2,398	1,723
Peak hour person trips (assuming percent of total)	30%	1,840	719	517
LOV ^a person trips	58%	1,067	417	300
HOV ^a person trips (carpools)	16%	294	115	83
HOV ^a person trips (slugging)	5%	92	36	26
Shuttle bus/walk to Metro	20%	368	144	103
Other	1%	18	7	5
Vehicle trips^b		1,104	432	310
Bus trips (40 passengers per vehicle)		10	4	3

Note: PM Peak Hour trip estimation would be approximately the same or slightly lower as some employees may leave early, stay late, etc.

^a LOV = low occupancy vehicle; HOV = high occupancy vehicle; slugging = picking up passengers at designated points to meet HOV requirements.

^b Vehicle Trips were calculated by adding LOV, HOV carpool, and HOV slugging person trips, assuming a LOV vehicle occupancy of 1.1 persons per vehicle; HOV carpool vehicle occupancy of 3.2; and HOV slugging vehicle occupancy of 2.2.

As shown in Table 3.2-1, the GSA site would generate approximately 1,100 vehicle trips to the site in the AM and PM peak hour due to the 6,259 additional employees at the site (there are currently 150 employees at the GSA site). The Victory Center site, given that the site is already approved for 4,300 employees by the City of Alexandria and these employees have already been included in the MWCOG model, would generate a net increase of approximately 430 additional vehicle trips. The Mark Center alternative, which has already been approved for 5,050 employees by the City of Alexandria, would generate a net increase of approximately 310 additional vehicle trips over the No Action Alternative.

3.2.1.2 Travel Demand Modeling Approach

The Fort Belvoir BRAC EIS, which studied the impacts of the entire BRAC action on the installation and surrounding areas, required the use of travel demand models, which are appropriate to assess large projects that have far-reaching effects. That analysis used multiple perspectives, beginning with the broader regional context, moving to narrower views of the sub-regional area around Fort Belvoir, and then ending with conditions in the immediate vicinity of the Main Post, EPG, and the GSA site.

The analysis includes measurements for level of service (LOS). LOS is a measure by which transportation planners determine the quality of service and characterize the existing operating conditions and conditions from the proposed action in terms of traffic performance measures. These measures include speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

At intersections, LOS is a function of the average overall wait time for a vehicle to pass through the intersection. In general, LOS can be characterized as follows:

- A= free flow
- B=reasonably free flow
- C=stable flow
- D=approaching unstable flow
- E=unstable flow
- F=forced or breakdown flow

All three alternative sites being evaluated for occupation by BRAC 133 are not managed as part of Fort Belvoir and are considerably different in land use. The methodology for the development of travel demand forecasts for this EA varied by alternative as described below.

Alternative A: GSA Site. Additional travel demand model runs were completed for this EA to represent the GSA site alternative as described above. The methodology for preparing travel demand forecasts for the GSA site was consistent with that developed to conduct the transportation analysis for the EIS. The Metropolitan Washington Council of Governments' (MWCOC) Travel Demand Model Version 2.1, Release D, Edition 50, and the Round 7 Cooperative Land Use Forecast were used for the travel demand forecasting for the development of the future volumes. The overall assumptions and modeling parameters that were developed as part of the EIS are contained in the meeting minutes from the September 12, 2006, meeting of the Transportation Working Group, established during the preparation of the EIS with representatives from Army, state, and federal stakeholders to address transportation issues with the BRAC action at Fort Belvoir.

The GSA site is developed and has over 1 million square feet of warehouse space used for storage. While the redevelopment of the GSA site has often been suggested as a development option for Springfield by groups such as the Urban Land Institute (ULI), redevelopment has not been fully included in the Fairfax County Comprehensive Plan or the regional socioeconomic forecasts for the region. Thus, when compared to the No Action Alternative, the GSA site represents a net change of approximately 6,259 employees that would generate approximately 1,100 additional peak hour vehicle trips.

Alternative B: Victory Center. This alternative consists of one vacant office building with the remainder of the site paved for parking. The site has already been approved by the Alexandria City Council and is included in the MWCOC regional model with an employment level of approximately 4,300 employees and approximately 3,000 parking spaces. Therefore, the net increase in employees on site because of BRAC 133 would be approximately 2,109, generating about 430 additional peak hour vehicle trips. In addition, the City Council approved the TMP that was submitted as part of the request for development. The transportation analysis for this site was conducted by an independent consultant (Wells & Associates, 2008b) at the request of the property owner. Traffic forecasts were developed by applying growth rates to existing traffic volumes. The analysis for this EA was limited to a review of their traffic studies to verify that the projections used in the traffic capacity analysis were consistent with the growth in the area that is being shown in current MWCOC model runs.

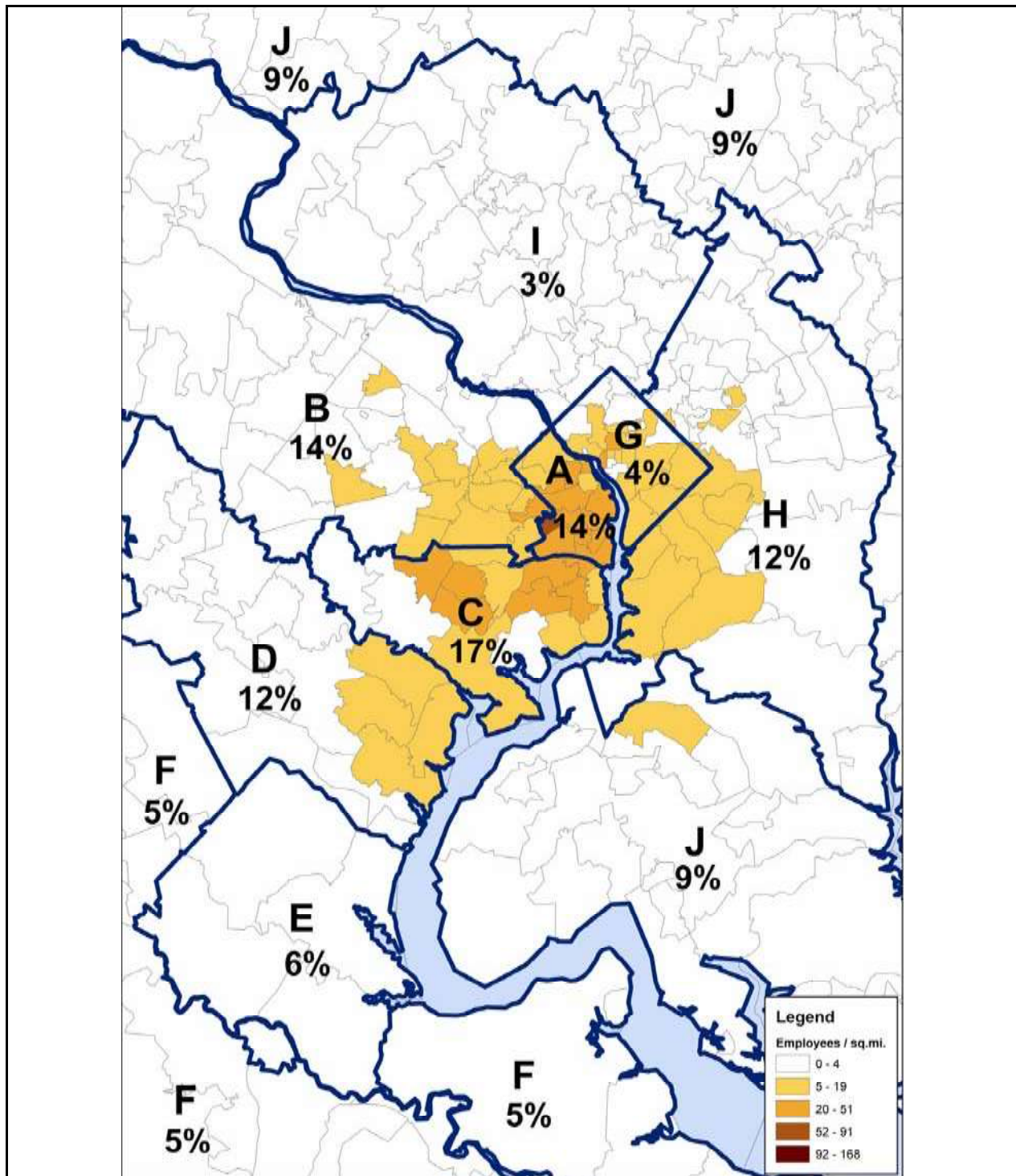
Alternative C: Mark Center. Mark Center is a mixed-use community with a blend of residential, hotel, retail, office, and open space uses. There are currently 14 existing commercial office buildings at Mark Center, totaling approximately 1.6 million square feet. Expansion of the site with an additional 1,368,500 square feet of office space has been approved by the City of

Alexandria, with a total of 1,743,116 square feet planned for that location (Duke Realty, 2008). Thus, 79 percent of the total space planned for development has been approved by the City of Alexandria. BRAC 133 requires 1.8 million square feet; however, the Duke Realty report values have been used to develop estimates of approved employees at the site. Applying the same ratio to number of employees suggests that approximately 5,050 (79 percent) of the 6,409 BRAC employees are already planned for the site. Therefore, the net increase of employees on site due to BRAC 133 would be approximately 1,359 personnel, generating about 310 additional peak hour vehicle trips. As with the Victory Center site, the transportation analysis for Mark Center was conducted by an independent consultant (Wells & Associates, 2008a) at the request of the property owner. Traffic forecasts for the build condition were developed by layering the projected traffic demand due to site development on existing traffic volumes. The analysis for this EA was limited to a review of their traffic studies to verify that the projections used in the traffic capacity analysis were consistent with the growth in the area that is being shown in current MWCOC model runs.

Travel Patterns. Employee distributions were reviewed in order to assess the directions of arrivals/departures and the potential for transit use by BRAC 133 personnel. As shown in Figure 3-2 (employee density within zip code boundary (employees/square mile) based on payroll data) employee residences are distributed throughout the Washington, DC, metropolitan region. The distribution suggests that outside of the immediate area of the site, the volumes dissipate such that the total impact to the roadway system would not be dramatic in any one location. Figure 3-3 shows the general direction of trips arriving internally or externally from a boundary surrounding all three alternative sites. This boundary was drawn to determine the proportion of trips that would arrive from each direction regardless of the site. Over 90 percent of BRAC 133 traffic would arrive from outside of the boundary and will use generally the same regional roadways regardless of the site chosen. For example, a trip from lower “Southern Fairfax” (outside the boundary) would generally be the same to reach any of the three sites.

The final portion of the route to work for the employees outside of the boundary and the route to work for the approximately 6 percent of employees who live within the boundary (labeled “Internal” on the Figure 3-3) would vary based on the site chosen. For example, a trip from the I-395/Edsall Road interchange area would travel north on I-395 to Seminary Road to reach Mark Center; south on I-395/I-95 to the Old Keene Mill Road/Franconia Road interchange to Loisdale Road to reach the GSA site; or east on Edsall Road/Van Dorn Street/Eisenhower Avenue in Eisenhower Valley to reach Victory Center.

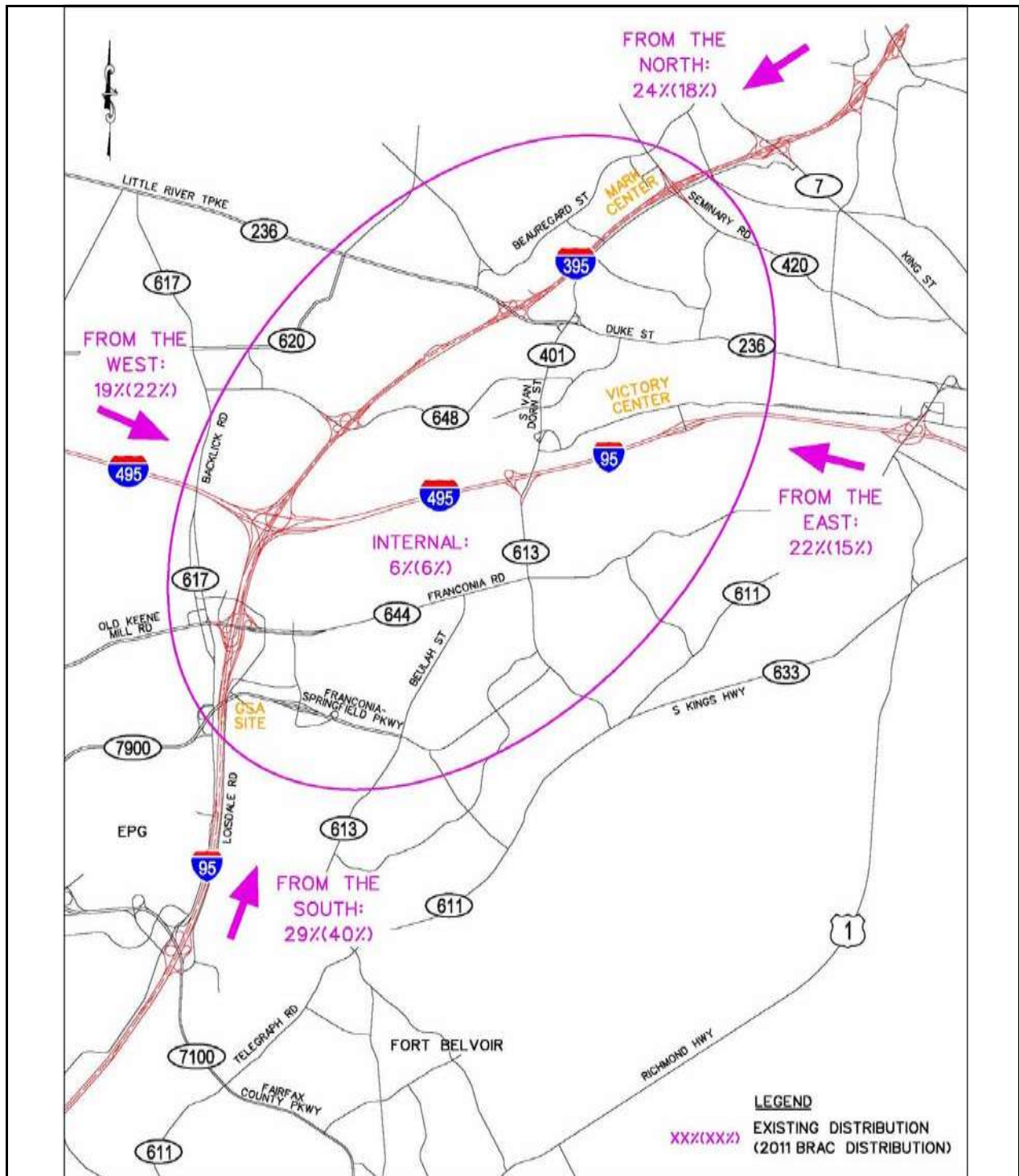
Generally, BRAC 133 has a large contingency commuting to Crystal City and Arlington today; therefore, relocating its employees to the Springfield area, Eisenhower Valley, or Mark Center in Alexandria at the I-395/Seminary Road interchange, would result in a smaller change in travel patterns than moving them to Fort Belvoir. In addition, it is less likely that there would be a wholesale move to the south, which would relieve the impacts to the I-95 corridor. Note that for a worst-case traffic analysis, it was assumed that BRAC 133 personnel maintain the same distribution pattern as assumed for the EIS – 50 percent of employees would maintain their current distribution and 50 percent would relocate to align with the existing residential distribution of Fort Belvoir employees, as shown in Figure 3-4. Given this assumption, the impact to the direction of arrivals/departures is at most +/-10 percent in any direction (as shown by the 2011 BRAC Distribution percentage in Figure 3-3).



Note: Employee Density within Zip Code Boundary (Employee/sq.mi.) based on payroll data

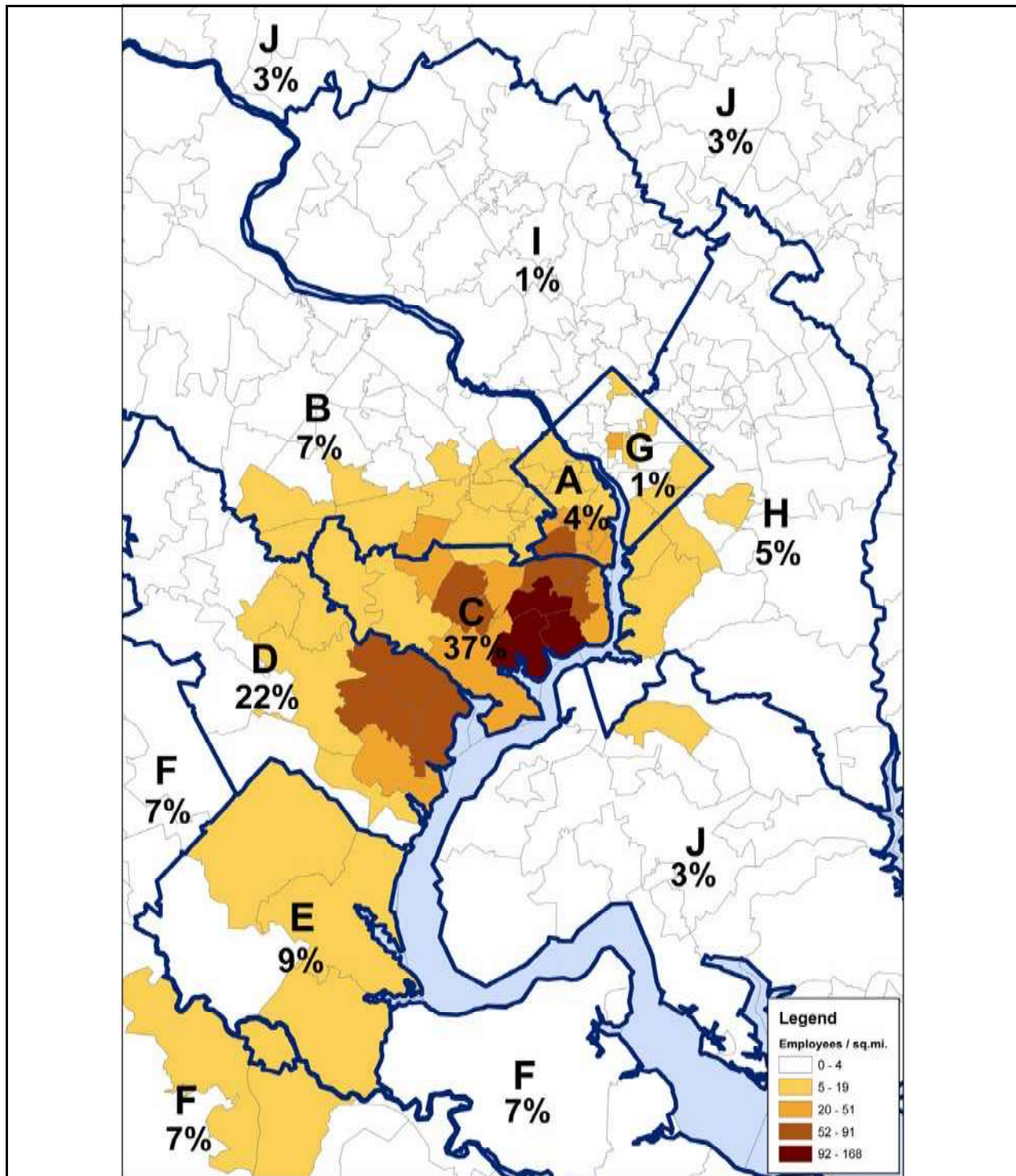
Current Residential Distribution of BRAC 133 Employees

Figure 3-2



BRAC 133 Employees Approaching Three Sites on Regional Roadways

Figure 3-3



Note: Employee Density within Zip Code Boundary (Employee/sq.mi.) based on payroll data

**Current Residential Distribution
of Fort Belvoir Employees**

Figure 3-4

With respect to transit usage, employee residences are not concentrated around Metro stations, which would limit the use of Metrorail for commuting to any one of the three sites. Studies have shown that commuters are more likely to use transit when their residence is located within one mile of a station and their office is within one-half mile; the employee survey of zip codes indicates that not many of the current personnel meet these criteria. As suggested by the density in employee residence in Figure 3-4, a small percentage of the employee population is likely to use VRE. Approximately 23 percent of BRAC 133 employees currently live south of the Occoquan River, and they are widely dispersed (Figure 3-2, areas D, E, and F). In contrast, approximately 38 percent of Fort Belvoir employees live south of the Occoquan River and in more concentration, as shown by the shaded portions of areas D, E, and F in Figure 3-4. The TMP for BRAC 133 would have to promote ridesharing aggressively in order to meet its target reductions in single occupancy vehicle use to the worksite.

3.2.2 Affected Environment

This section documents existing conditions in the vicinity of the GSA site, Victory Center, and Mark Center. The transportation systems consist of the road network and transit system (comprising rail and bus services). Available capacity and performance of the transportation system indicate the conditions that commuters and travelers encounter.

3.2.2.1 GSA Site

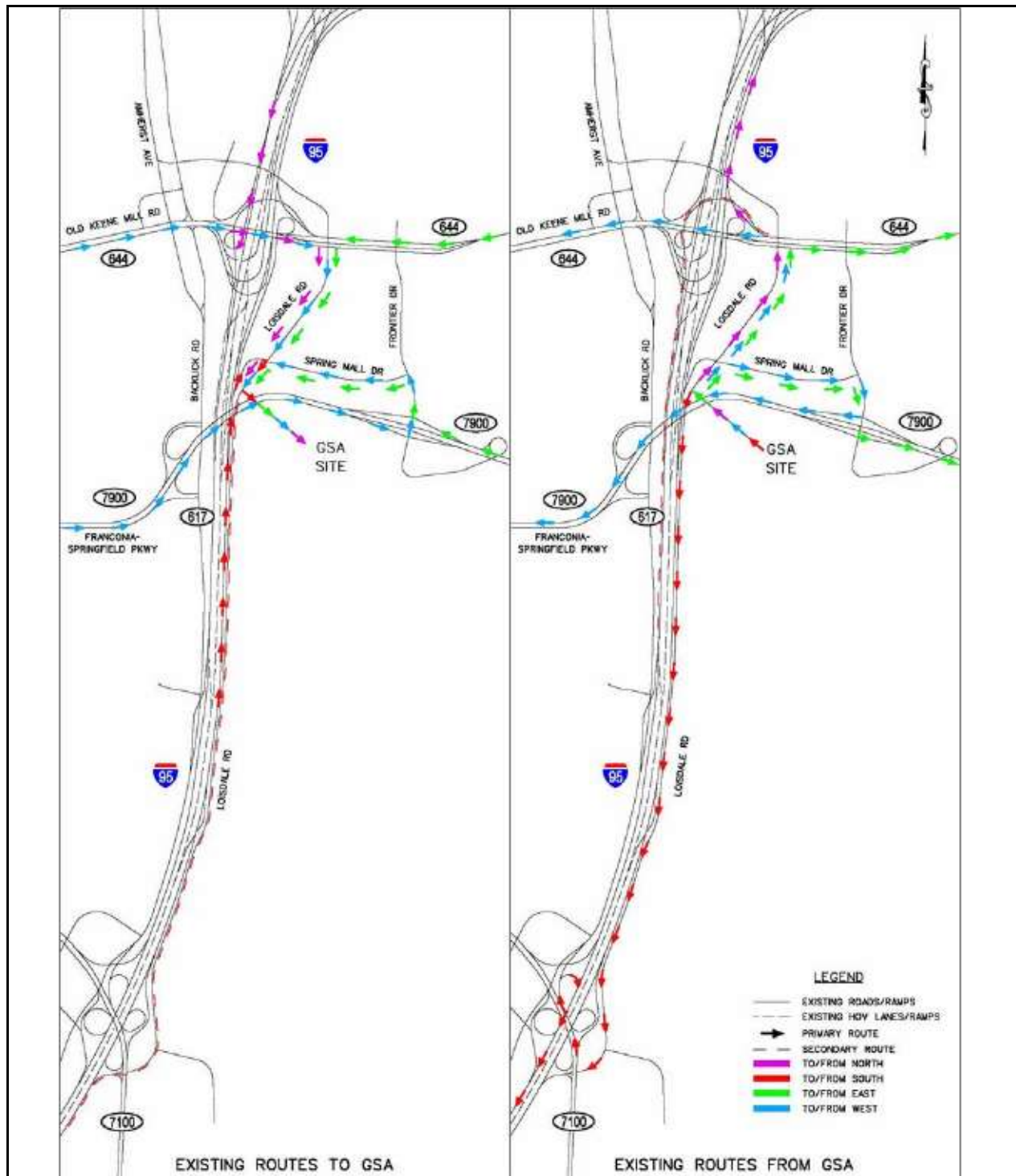
The GSA site is approximately two miles north of Fort Belvoir's Main Post. The GSA site is "land-locked" within the Franconia-Springfield Parkway, I-95/Loisdale Road, residential and commercial areas, and Metropolitan Center Drive, and it has limited roadway access. The affected environment for transportation for this site is discussed in detail in Section 4.3.2 of the Fort Belvoir BRAC EIS. Existing routes to and from the GSA site via regional roadways, notably Franconia Road, Loisdale Road, Frontier Drive, and the Franconia-Springfield Parkway, are shown in Figure 3-5. The study area and key intersections are shown in Figure 3-6 (AM) and 3-7 (PM).

The GSA site is about 2,500 feet from the Springfield Transportation Center, which houses the Franconia-Springfield Metrorail Station and provides access to the Metrorail Blue Line. The Center is also a stop along VRE's Fredericksburg Line, which operates between Fredericksburg and Union Station in Washington, DC. Finally, the Fairfax Connector provides bus service to and from the area.

The GSA site abuts Loisdale Road, which is currently serviced by two Fairfax Connector routes that provide a connection to the Springfield Transportation Center, east of the GSA site, and the Northern Virginia Community College Medical Education Campus, south of the GSA site. Along the roadway network, the Center is located less than one-half mile to the northeast of the site.

Traffic analysis results for twelve key locations surrounding the site indicate that three intersections are currently at capacity (LOS E) or over-capacity (LOS F), which suggests that some roadway improvements are needed regardless of the GSA site redevelopment. These three intersections are:

- Franconia-Springfield Parkway and I-95 HOV ramps
- Franconia-Springfield Parkway ramps and Frontier Drive
- Franconia Road and Commerce Street/Loisdale Road



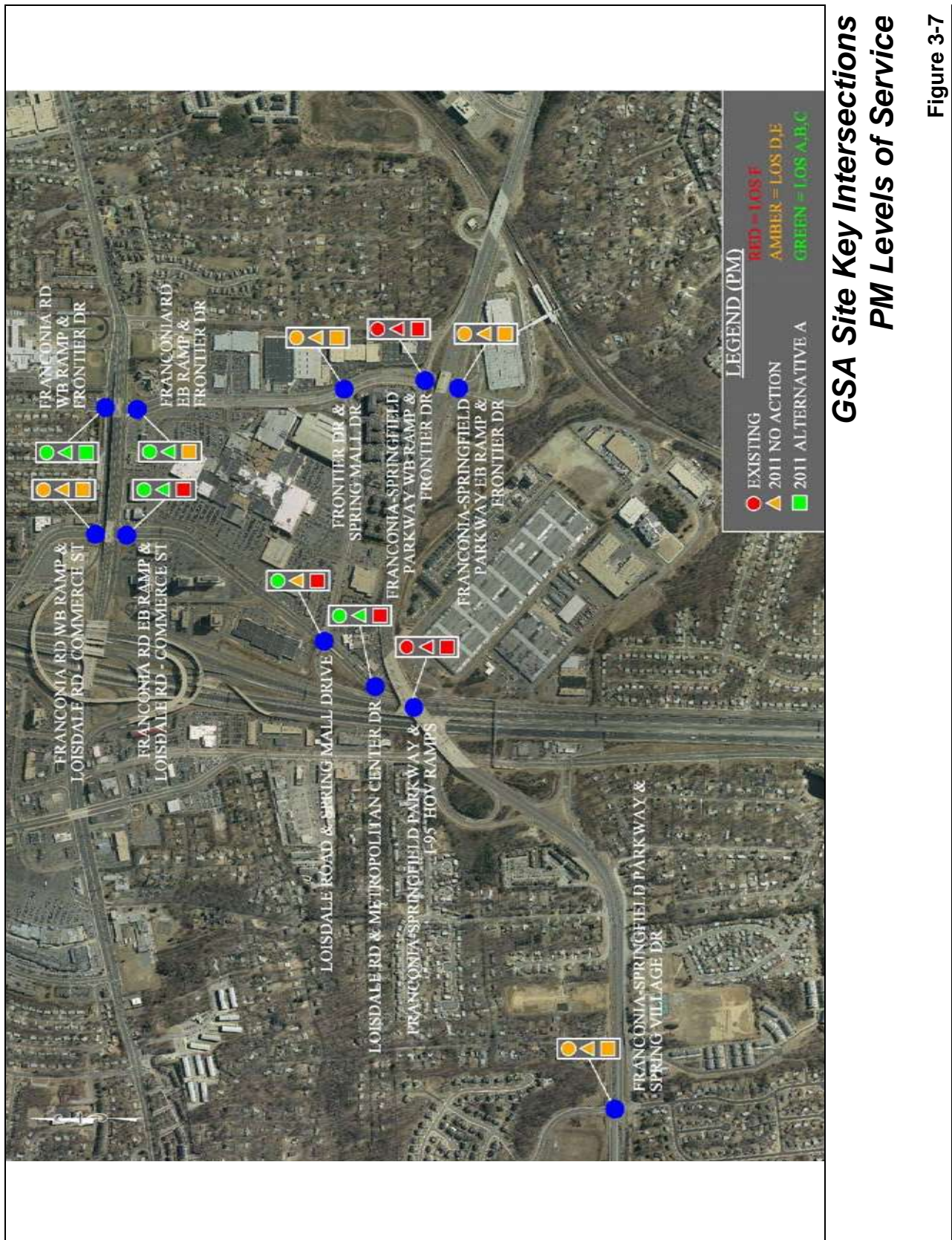
Existing Routes to/from GSA Site

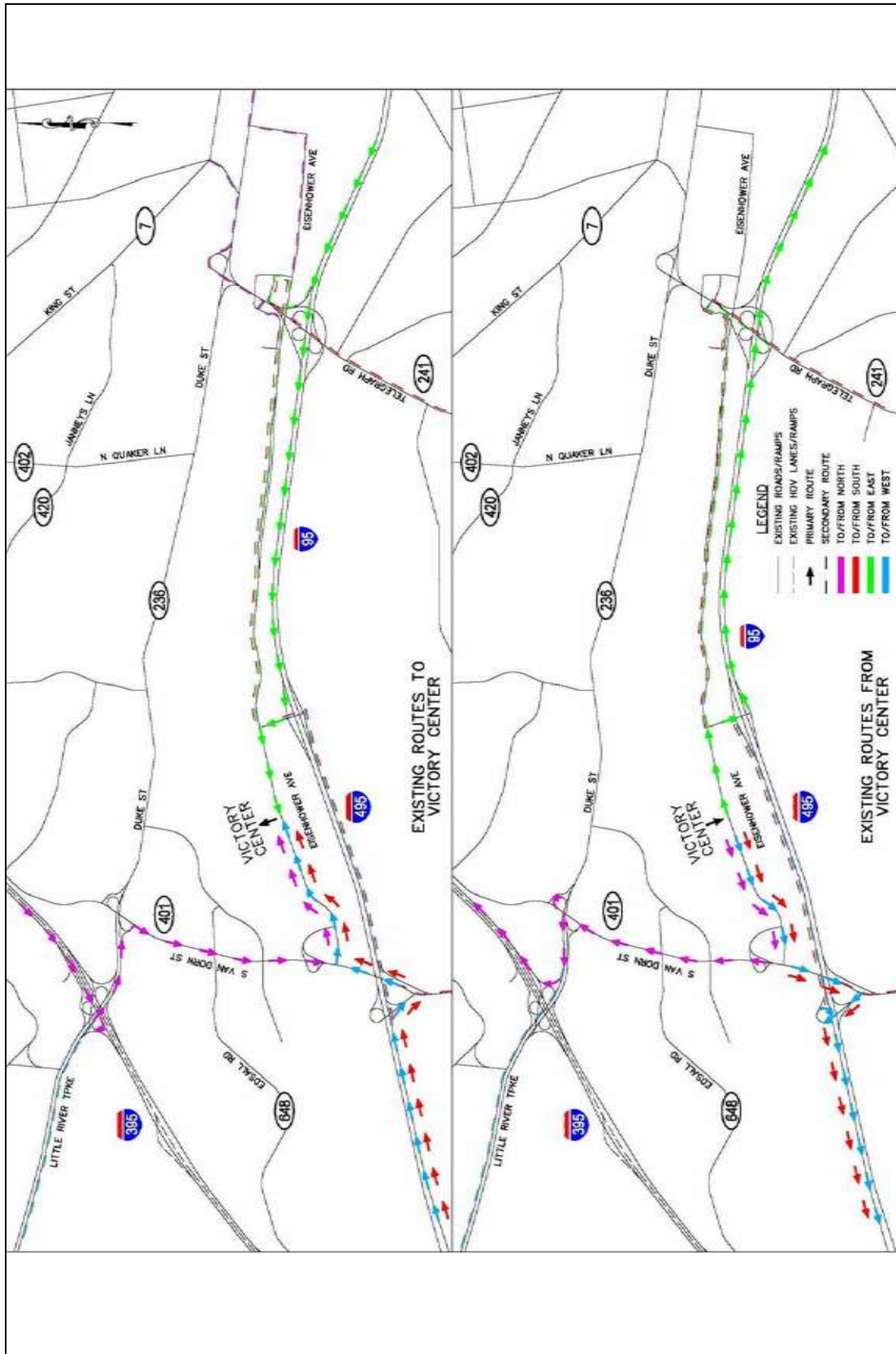
Figure 3-5



**GSA Site Key Intersections
AM Levels of Service**

Figure 3-6





**Existing Routes to/from
Victory Center**

Figure 3-8

The GSA site is within the Franconia-Springfield Transit Area, bounded by Franconia Road to the north, the Franconia-Springfield Parkway to the south, Frontier Drive to the east, and I-95 to the west. This transit area generates approximately 70,000 trips per day and is approaching capacity during peak periods. Access to the Franconia-Springfield Transit Area is provided by these roadways and others within this transit area. Figure 3-5 shows the access routes to/from the GSA site and the transit area.

3.2.2.2 Victory Center

The 16-acre Victory Center site is approximately four miles north of Fort Belvoir in the Eisenhower Valley section of the City of Alexandria, just inside the Capital Beltway on Eisenhower Avenue between the Van Dorn Street and Eisenhower Avenue Connector interchanges.

The regional context is similar for all three alternatives and is documented in detail in Section 4.3.2 of the Fort Belvoir BRAC EIS. Victory Center is located in the Eisenhower Valley area of the City of Alexandria, which generally parallels two major roadways within it, Eisenhower Avenue and the Capital Beltway. Access to the Eisenhower Valley is provided via Van Dorn Street, Clermont Avenue (Eisenhower Connector), and Telegraph Road, with Eisenhower Avenue serving as the main collector road within the valley. Existing routes to and from the Victory Center via regional roadways is shown in Figure 3-8. Figures 3-9 (AM) and 3-10 (PM) show the study area and the key intersections surrounding the site.

In terms of accessibility to transit, the site is situated approximately 2,600 feet east of the Van Dorn Metro station, which provides access to the Blue Line on the Metro Rail System. Riders can use the Blue Line to connect to VRE via the Franconia-Springfield Metro station (the next station to the west) or the King Street Metro station (the next station to the east). Amtrak service is also available at the King Street Metro station. The Eisenhower Avenue Metro station, located approximately three miles east of the site along Eisenhower Avenue, provides access to the Metro Rail Yellow Line. The Alexandria DASH bus system provides bus service along Eisenhower Avenue.

Six key intersections in the vicinity of the Victory Center site were examined as part of the transportation analysis for this EA (Wells & Associates, 2008b). The signalized intersection of Van Dorn Street and Eisenhower Avenue currently operates at failing conditions during both the AM and PM peak hours, with the majority of delay on Van Dorn Street. All of the other study locations, including the signalized Eisenhower Avenue and Clermont Avenue/Eisenhower Connector intersection, operate at LOS D or better.

Like the Springfield area, the Eisenhower Valley is approaching capacity during peak periods, with approximately 65,000 trips per day.

3.2.2.3 Mark Center

The Mark Center is about 5 miles north of Fort Belvoir's Main Post in the southwest quadrant of the I-395/Seminary Road interchange in the City of Alexandria. From a transportation perspective, it is in a mixed-used development area (multi-family, office, and commercial) bounded by King Street (Route 7) on the north, Little River Turnpike (Route 236) on the south, I-395 on the east, and Beauregard Street on the west. This area generates an estimated 105,000 daily trips. The proposed 24-acre BRAC 133 footprint is located within the 350-acre mixed-use Mark Center community bounded by Seminary Road to the north, Sanger Avenue to the south, I-395 to the east, and North Beauregard Street to the west. Access to the proposed site is provided

via Mark Center Drive, an internal roadway that runs between Seminary Road and North Beauregard Street.

The regional context is similar for all three alternatives and is documented in detail in Section 4.3.2 of the Fort Belvoir BRAC EIS. Existing access routes to and from Mark Center via regional roadways is shown in Figure 3-11. Figures 3-12 (AM) and 3-13 (PM) show the study area and the key intersections surrounding the site.

Mark Center provides access to Metrorail via bus or shuttle ride to the Van Dorn Street, King Street, Pentagon City, and Pentagon Metro Stations on the Blue and Yellow Lines. Duke Realty provides a regularly scheduled free shuttle bus service to tenants of Mark Center directly to the Pentagon City Metro Station, five miles north of Mark Center via I-395, which provides access to both the Blue and Yellow Lines. Direct access at the I-395/Seminary Road interchange to and from the north on the HOV lanes allows the shuttle bus to use the HOV lanes during peak periods. Both Metrobus and DASH (City of Alexandria public transit bus system) serve Mark Center on Seminary Road, Beauregard Street, and Mark Center Drive.

3.2.2.4 No Action Alternative

3.2.2.4.1 GSA Site

A 2011 No Action Alternative intersection analysis was performed at the same twelve intersections surrounding the GSA site as identified in Section 3.2.2.1. The three intersections identified to fail under existing conditions would continue to operate at or over capacity are:

- Franconia-Springfield Parkway and I-95 HOV ramps
- Franconia-Springfield Parkway ramps and Frontier Drive
- Franconia Road and Commerce Street/Loisdale Road.

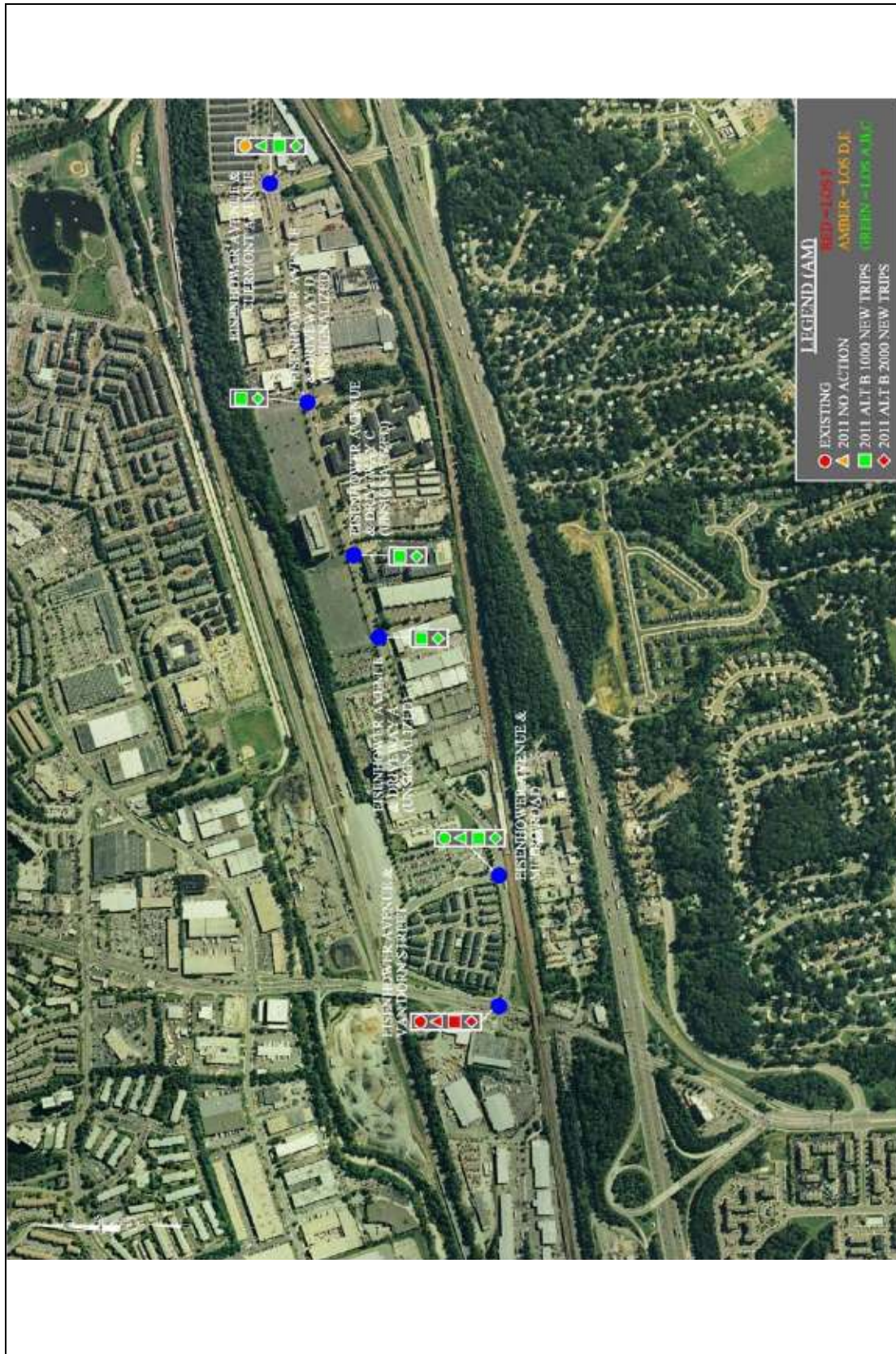
This analysis assumed no change to the roadway network other than access to the GSA site, as already identified per a proffer obtained by Fairfax County (Rezoning RZ 1998-LE-006) to widen Metropolitan Center Drive to four lanes. In 2011, in addition to the three intersections identified above, the following intersections would experience failing conditions, due to background growth and other BRAC related traffic:

- Loisdale Road and Spring Mall Drive
- Fairfax County Parkway and Loisdale Road and I-95 off-ramp
- Franconia-Springfield Parkway and Spring Village Drive

3.2.2.4.2 Victory Center

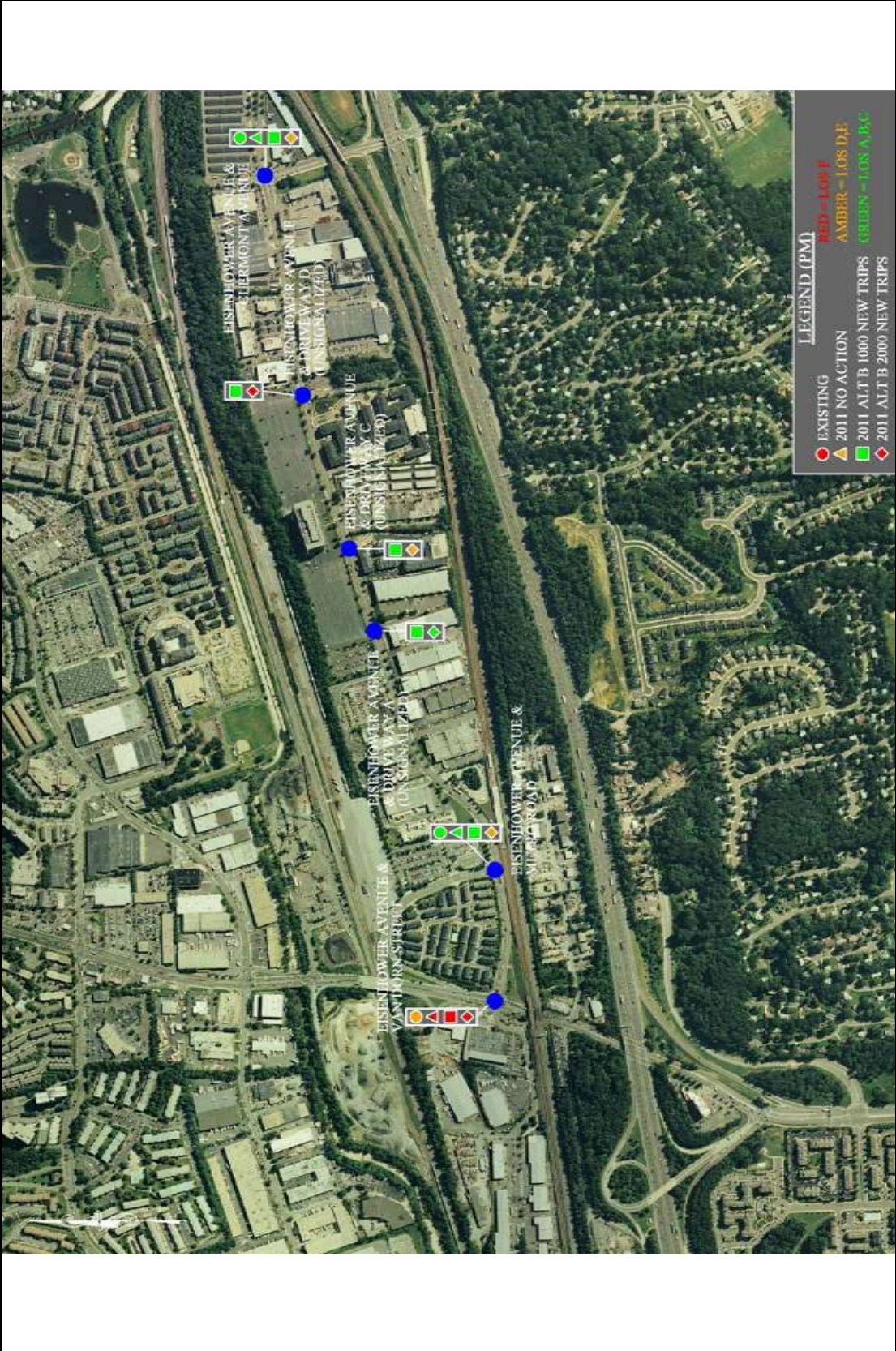
The 2011 No Action Alternative intersection LOSs for the Victory Center site were calculated using background future traffic forecasts on the existing roadway network. Based on historical traffic information collected in the Eisenhower Avenue corridor, a growth rate of 3 percent was applied to the through traffic on Eisenhower Avenue and 1 percent to the through traffic on South Van Dorn Street. These rates were applied for a six-year period (2005-2011) to the existing traffic data to reflect 2011 conditions.

In 2011, several of the study intersections in the vicinity of Victory Center would require phasing and/or signal timing modifications to accommodate changes in traffic volumes and patterns. For example, both the Eisenhower Avenue/Metro Road and Eisenhower Avenue/Eisenhower Connector intersections would require signal timing changes to operate at acceptable LOSs. With the exception of Van Dorn Street/Eisenhower Avenue, which continues to operate at failing



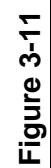
**Victory Center Site Key Intersections
AM Levels of Service**

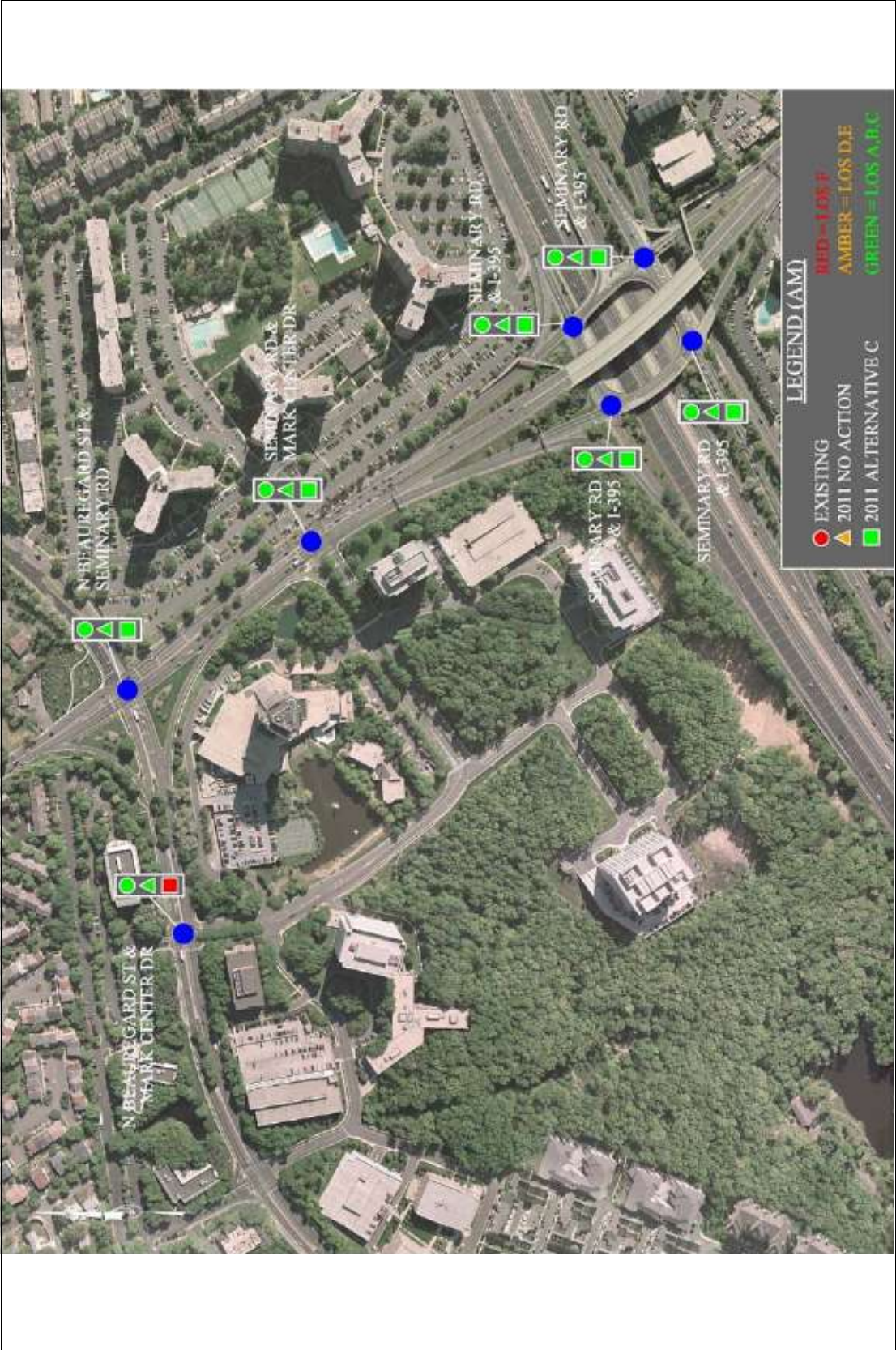
Figure 3-9



**Victory Center Site Key Intersections
PM Levels of Service**

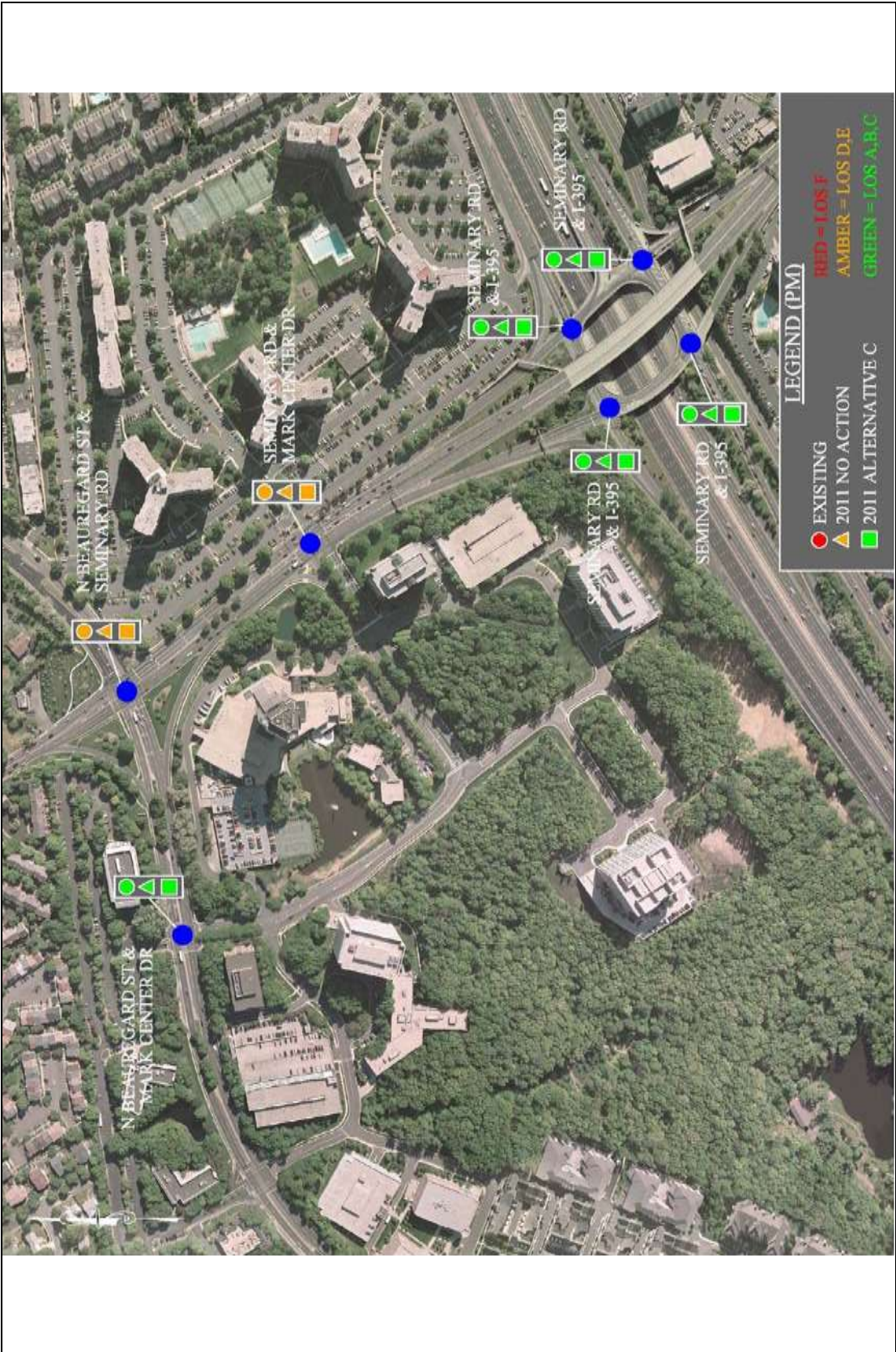
Figure 3-10





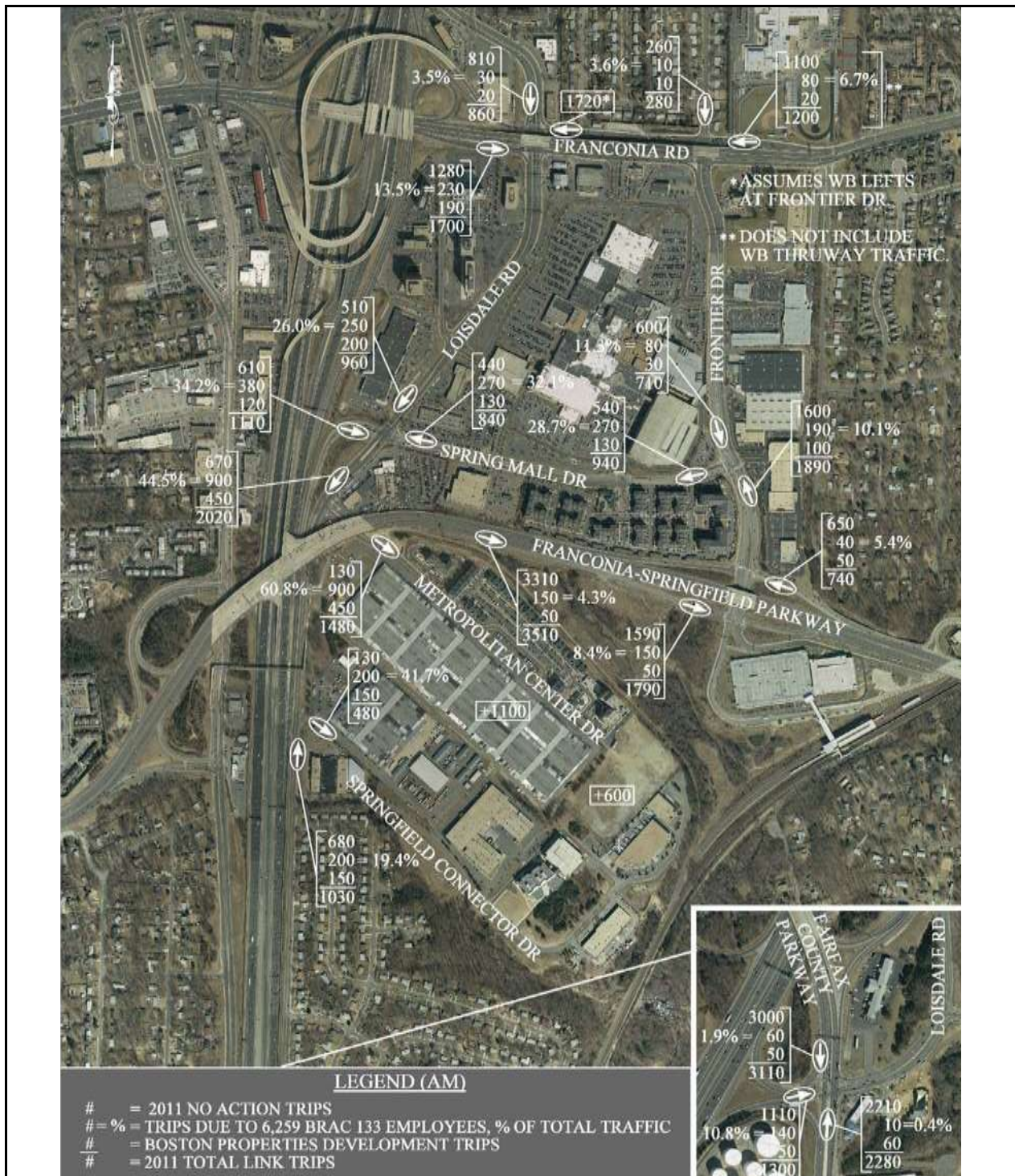
**Mark Center Key Intersections
AM Levels of Service**

Figure 3-12



**Mark Center Key Intersections
PM Levels of Service**

Figure 3-13



GSA Site Projected AM Peak Hour Traffic Volumes

Figure 3-14

conditions during the peak periods, the remainder of the study intersections would perform at LOS D or better under the No Action Alternative.

3.2.2.4.3 Mark Center

The 2011 No Action Alternative intersection LOSs are assumed to be the same as for existing conditions at the Mark Center site for the following reasons:

- Six years of average daily traffic (ADT) estimates (2001–2006) suggest that the total traffic volumes along I-395 near the Mark Center, both north and south of the Seminary Road exit, has fluctuated year to year but has declined by about 3 percent overall.
- Traffic counts taken internally at Mark Center in January 2007 are similar to 2002 count data along Seminary Road and Beauregard Street, with most link volumes between intersections lower in 2007.
- January 2008 48-hour counts along Seminary Road south of Beauregard Street, and along Beauregard Street west of Seminary Road, show that traffic volumes have declined slightly when compared to 2002 link volumes.

Given these findings that existing volumes are relatively flat along I-395, Beauregard Street, or Seminary Road, and due to the fact that little other new development (other than revitalization) is planned in the vicinity of Mark Center, volumes are not expected to increase substantially over the next three years. Therefore, the existing volumes and levels of service for existing conditions can be used for the 2011 No Action Alternative.

3.2.3 Environmental Consequences

3.2.3.1 Alternative A: GSA Site

Long-term minor, but not significant, adverse effects would be expected with the implementation of Alternative A. Due to the increase in traffic requiring access to the site, the level of service at surrounding intersections would deteriorate, in particular at Loisdale Road/Spring Mall Drive and the intersections of the Franconia-Springfield Parkway ramps with Frontier Drive. Figure 3-14 shows the projected BRAC 133 AM peak hour traffic volumes on roadway links approaching the site.

The percentage of BRAC 133 traffic is higher on the links immediately surrounding and accessing the site; however, the proportion drops below 10 percent within minutes from the site. Peak hour intersection turning volumes are contained in Appendix D.

Assuming improvements required to address intersection failures under the No Action Alternative have been completed, an employment level of up to 5,000 personnel would require limited improvements to the roadway network. Such limited improvements would include widening Loisdale Road adjacent to the GSA site and improving several intersections surrounding the site to maintain the levels of service forecast under the No Action Alternative. As employment levels increase beyond 5,000 personnel, several more modest improvements to intersections and the existing roadways would be required, as described below and including the intersection of Loisdale Road, Spring Mall Drive, and the ramp from northbound I-95. Improvements to these intersections combined with an aggressive TMP for both the BRAC 133 site and Boston Properties would accommodate the projected traffic demand. To achieve reasonable traffic operations along Loisdale Road, access into and egress from the site via Metropolitan Center Drive would need to be split, as shown in Figures 3-15 and 3-16. The Franconia-Springfield Parkway structure passing over Loisdale Road imposes constraints in terms of sight distances and

the ability to widen for turn lanes; therefore, both intersections would be needed to accommodate the turn movements. Figure 3-15 shows a one-way pair, with traffic entering the site at the southern entry point and exiting at the northern point. Figure 3-16 suggests that the northern intersection would serve traffic to and from the north of the site and the southern intersection would serve traffic to and from the south. The Fairfax County Comprehensive Plan calls for the widening of Metropolitan Center Drive from two to four lanes should the GSA site be redeveloped. This widening, combined with the proffer associated with development of the Boston Properties site to connect Metropolitan Center Drive to Springfield Center Drive, creates a connector road that encircles the area containing the GSA site, Boston Properties, and other uses.

Two potential alternate access points also have been studied to improve traffic flow around the GSA site. One potential access would be a grade-separated connection between the GSA site and Spring Mall Drive to allow some traffic to bypass the intersection of Loisdale Road and Spring Mall Drive. As shown in Figure 3-17, this improvement would require a bridge over, or a tunnel under, the Franconia-Springfield Parkway. This connection would require an amendment to the Fairfax County Transportation Plan, the acquisition of property, and use of the abandoned GSA railroad ROW. This improvement would take pressure off of the intersection of Spring Mall Drive and Loisdale Road; a design that precluded cut-through traffic would be preferred.

A second possible connection would run from the northeast corner of the GSA site to Frontier Drive and the ramps to the Franconia-Springfield Parkway; however, this access would require coordination with the Washington Metropolitan Area Transit Authority (WMATA). WMATA would likely be concerned with any additional traffic, unless upgrades were included. The Franconia-Springfield Parkway/Frontier Drive intersection, a tight-diamond interchange, already operates at LOS F, and this intersection would require major improvements if access from the GSA site were provided at this location or via an extension of Frontier Drive.

The extension of Frontier Drive is being studied by Fairfax County. This extension would connect to the “loop road” created by the connection of Metropolitan Center Drive and Springfield Center Drive through Boston Properties. It is unlikely that such an improvement would change the alignment of Metropolitan Center Drive along the GSA site. This arrangement would result in the majority of traffic approaching the GSA site from the east on Metropolitan Center Drive via Frontier Drive. Traffic from the south would continue to use Loisdale Road. The design of this improvement would be driven by a number of factors, including the potential location of BRAC 133. Currently, as noted previously, the north intersection of the Frontier Drive/Franconia-Springfield interchange operates at LOS F. Therefore, it is anticipated that improvements to this interchange would be required as part of any project to extend Frontier Drive. Costs would vary considerably based upon the design chosen. However, it is anticipated that costs for this project would range between \$50 and \$100 million dollars.

Construction of a shuttle bus connector road between Metropolitan Center Drive and the Franconia-Springfield Metro station is scheduled to be completed by Spring 2008. Boston Properties, the owner of a land parcel adjacent to and southeast of the GSA site, is planning to build an office building at that location, and is required to provide the shuttle bus connector road as part of their development. If Frontier Drive is extended in the future, buses would use the Frontier Drive extension and the connection to Metropolitan Center Drive, as the shuttle bus connector road currently under construction would not be compatible with the extension of Frontier Drive.

Finally, development of the GSA site and surrounding properties may influence the design of the I-95/Fairfax County Parkway interchange, the next interchange to the south of the site. As traffic



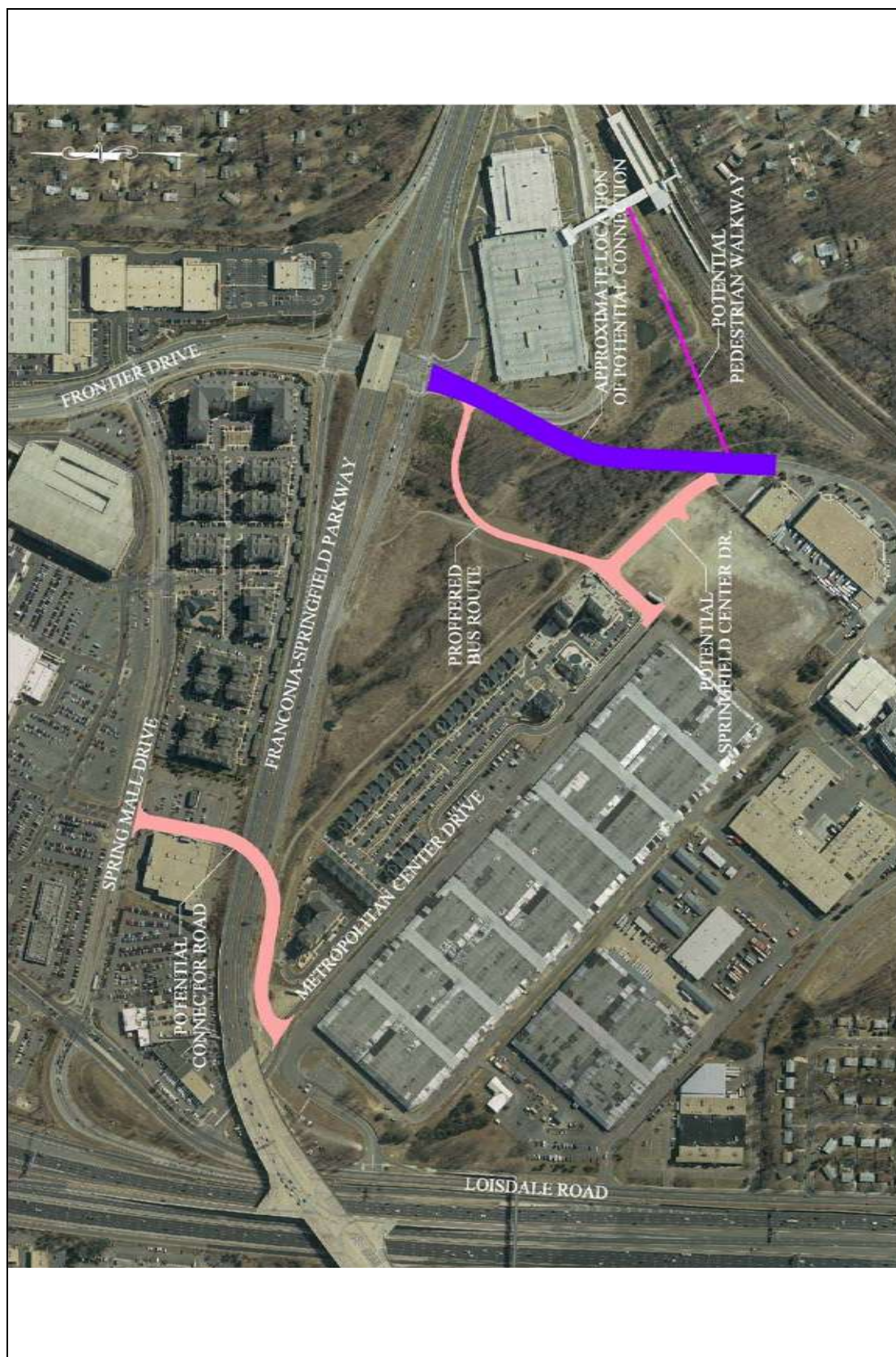
**Metropolitan Center Drive
Reconfiguration Option 1**

Figure 3-15



**Metropolitan Center Drive
Reconfiguration Option 2**

Figure 3-16



**Other Potential Access Points
to the GSA Site**

Figure 3-17



***I-95 Northbound to Loisdale
Road Ramp Option***

Figure 3-18

from the south increases, options would be needed to relieve both the HOV ramp to the Franconia-Springfield Parkway and the general purpose exit ramp to Spring Mall Drive. A potential concept for a connection to Loisdale Road from the I-95/Fairfax County Parkway interchange is shown in Figure 3-18.

3.2.3.2 **Alternative B: Victory Center**

Long-term minor, but not significant, adverse effects would be expected with the implementation of Alternative B. The Wells report for Victory Center (Wells & Associates, 2008b) documented the impacts to traffic operations assuming two conditions at the site: 1,000 new trips and 2,000 new trips. The trip generation for the site included a 20 percent trip reduction due to the implementation of a TMP and the proximity of a Metrorail station. As was shown in Figures 3-9 and 3-10, under both conditions described above, two of the three signalized intersections (Eisenhower Avenue/Van Dorn Street and Eisenhower Avenue/Metro Road) perform at LOS E or worse during one or both of the AM and PM time periods, and egress from the site continues to deteriorate over the No Action Alternative.

Figure 3-19 shows 2011 AM peak hour traffic volumes on roadway links approaching the site resulting from a net increase of about 430 trips due to the additional 2,109 employees over the 4,300 employees already approved at Victory Center (which have already been accounted for under the No Action Alternative). The percentage of BRAC 133 traffic is higher on the links immediately surrounding and accessing the site; however, the proportion drops below 10 percent within minutes from the site.

In 2011, the growth in background traffic in the South Van Dorn area will continue to be a problem, with or without development. The proposed development would result in an increase in traffic generally along Eisenhower Avenue during peak periods; some increases also would occur at the three closest intersections along Eisenhower Avenue: Clermont Avenue/Eisenhower Connector, Metro Road, and Van Dorn Street. The Clermont Road/Eisenhower Connector and Metro Road intersections would operate at relatively acceptable levels of service with signal timing modifications. Adding a separate southbound right turn lane would further improve operations at the Metro Road intersection. The Van Dorn Street intersection would deteriorate further as a result of increased traffic resulting from the development. Improvements to this intersection would be difficult due to physical constraints north and south of the Eisenhower Avenue intersection.

Signal warrant analyses were conducted at both the east and west driveways to determine whether a traffic light is required at those intersections. Separate right turn lanes were assumed in place at both driveways for the evaluation of the warrants. The *Manual of Uniform Traffic Control Devices, Millennium Edition* (USDOT-FHWA, 2001) recommends eight warrants be met before new traffic signal installation. A traffic signal should not be installed unless a minimum of one of these warrants is met; however, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic signal, and engineering judgment should also be used in the evaluation of the warrants to ensure that a traffic signal will improve the overall safety and/or operation of the intersection. Under the two conditions evaluated in the Wells Report for Victory Center as described above (Wells & Associates, 2008b), the analysis found that a traffic signal was warranted at the east driveway with both 1,000 and 2,000 trips at the site; and the west driveway satisfied the warrant requirements for the 2,000 trips condition only. The signal warrant studies would be reevaluated and the approval of new traffic signals at either of these driveways would require review and approval by the City of Alexandria should BRAC 133 proceed at the Victory Center site.

Additional access/egress for Eisenhower Valley is included as part of the reconstruction of the Telegraph Road and U.S. Route 1 interchanges that may serve to alleviate some of the congestion at existing locations. At the Telegraph Road interchange, a direct access ramp is being constructed from westbound Capital Beltway and northbound Telegraph Road directly to Eisenhower Avenue, just to the east of the interchange. Within the U.S. Route 1 interchange, a new connection is being built from eastbound Capital Beltway (from the local lanes) to the Eisenhower Avenue/Stovall Street intersection; from the westbound Capital Beltway express lanes to Eisenhower Avenue via Mill Road; and from Eisenhower Avenue via Mill Road to the eastbound Capital Beltway express lanes.

The Virginia Department of Transportation Six Year Plan also includes the preliminary engineering for construction of an extension of Clermont Avenue. This four-lane roadway would connect Eisenhower Avenue to Duke Street and provide additional access to the Eisenhower Valley from the north.

3.2.3.3 **Alternative C: Mark Center**

Long-term minor, but not significant, adverse effects would be expected with the implementation of the Mark Center alternative. The Wells report for Mark Center (Wells & Associates, 2008a) documented the impacts to traffic operations assuming full development of Mark Center, and the trip generation for the site included a 10 percent trip reduction due to the implementation of a TMP. Due to the increase in traffic requiring access to the site, the LOS at surrounding intersections would deteriorate, in particular at Seminary Road/North Beauregard Street, Seminary Road/Mark Center Drive, and North Beauregard Street/Mark Center Drive. Figure 3-20 shows the projected BRAC 133 AM peak hour traffic volumes on roadway links approaching the site. The approach volumes due to approved development (1.35 million ft²) versus that which would result from the additional 450,000 ft² (which would come from existing office space) for BRAC 133 on top of the approved development site are identified separately. These estimates were generated using the data provided, assuming a 10 percent TMP reduction; therefore, it represents a worst-case scenario given that BRAC 133 has established its target reduction in SOV travel to be 40 percent.

In order to mitigate traffic impacts and improve levels of service at the three intersections identified above, the following improvements have been recommended surrounding the site:

- Construction of a third left turn lane from northbound Seminary Road to westbound Beauregard Street (see Figure 3-21). This improvement requires 1.3 acres of right-of-way within the intersection and along North Beauregard Street approaching Mark Center Drive, where an additional left turn lane is also proposed to accommodate the increase in site traffic.
- Construction of a second left turn lane from westbound Beauregard Street to Mark Center Drive (see Figure 3-21).
- Construction of a second right turn lane from Mark Center Drive to southbound Seminary Road. This improvement was recommended in an earlier study and has already been constructed at this location.

The I-395/Seminary Road interchange currently experiences congestion during the peak periods, and provision of an HOV Access Ramp at this interchange is currently in study status in VDOT's Six Year Plan. In addition, Duke Realty has a transportation right-of-way provision that was established when the Mark Center property was owned by Mark Winkler. The provision preserved sufficient land southeast of Mark Center and between it and I-395 to allow for the







**Seminary Road/North Beauregard Street/
Mark Center Drive Improvement Options**

Figure 3 -21

construction of a roadway that would carry inbound traffic only from I-395 to Seminary Road northbound. This ramp would be used by traffic that approaches from both northbound and southbound I-395 and from the east on Seminary Road. In addition, non-site traffic from I-395 that would otherwise turn left from Seminary Road to Beauregard Street could use this ramp as an alternate route. It is not anticipated that funding and construction of this ramp would be in place prior to the construction and occupation of the site; therefore, the at-grade improvements at the Seminary Road/North Beauregard Street intersection were proposed instead to accommodate the proposed development.

In addition to the improvements noted in the Wells report for Mark Center, the proposed BRAC 133 development contributes to an increase in the need for previously studied improvements to the regional transportation system in the surrounding area. These include:

- Improvements to the intersection of King Street and Beauregard Street
- Improvements to Beauregard Street from King Street through the intersection with Little River Turnpike
- Improvements to the I-395/Seminary Road interchange.

3.2.4 Security Implications

Specific siting and layouts of security checkpoints to the GSA site, Victory Center, and Mark Center would be developed as the designs are carried forth and the security requirements are developed for BRAC 133. The Unified Facilities Criteria (UFC) 4-010-01 (*DoD Minimum Antiterrorism Standards for Buildings*) establishes standards for construction and location of buildings.

Several of the standards relate to site planning and require minimum standoff distances for buildings and functional areas, unobstructed space around buildings, design of delivery areas, configuration of access roads, and parking restrictions. The standards for minimum standoff distances also take into account building populations for inhabited or uninhabited buildings, primary gathering buildings, and billeting structures. As a general rule, the standards impose new requirements for substantial separations between buildings, between buildings and parking, and between buildings and roads.

There is a potential transportation-related impact on maintaining security at these sites. Stopping vehicles entering the post to verify each occupant's identity and to check vehicles at the remote inspection facility (RIF) could cause delays at the post's access control points, resulting in vehicular backups (queues) onto the local road network. This assessment suggests that parking strategies that rely on parking areas outside the security perimeter should be explored to avoid the construction of extensive plaza areas for vehicle inspections. Coordination would be required with VDOT, the City of Alexandria, or Fairfax County in order to ensure that queuing in the checkpoint lane would not spill back onto the adjacent roadways.

There is an additional security setback that may be required under each of the alternatives for trucks and public buses. This requirement may affect shuttle buses to/from the Metro stations and the transit services that are being encouraged to meet the site's TMP goals. Also, there may be implications with possible restrictions to public bus service and truck traffic along Metropolitan Center Drive, Eisenhower Avenue, and Mark Center Drive, as they are all within the specified standoff distance. These requirements would vary based on the design of the site.

3.2.5 Summary and BMPs/Mitigation

The need for a safe and efficient transportation system must be weighed against the cost and extent of environmental effects resulting from transportation improvements required at the potential locations.

Vehicular Access. Unlike new developments that may not have existing connections to the roadway system, such as EPG, all three alternative sites have the benefit of existing access. Both the GSA site and Victory Center offer existing access from only one roadway, while Mark Center provides access from two local roadways and is immediately adjacent to the I-395/Seminary Road interchange. Access to GSA is provided from Loisdale Road, which currently is a three lane roadway that is planned to be widened to four lanes near the site. The Franconia-Springfield Parkway structure passing over Loisdale Road imposes constraints in terms of sight distances and the ability to widen for turn lanes; therefore, two intersections with Loisdale Road would be needed to accommodate the turn movements at the site. These two intersections would be adequate to accommodate the hourly traffic that would arrive at the site only because constraints to the north and south of the GSA site would meter traffic reaching that location. To the north, the Loisdale Road and Spring Mall Drive/I-95 ramp intersection acts as a bottleneck. To the south, the intersection of the Fairfax County Parkway/Loisdale Road at the I-95/Fairfax County Parkway interchange constrains traffic to/from the south. Both of these intersections are projected to fail in the 2011 No Action Alternative, and queuing and congested conditions would occur.

Given these constraints and the projected traffic volumes with development, additional access to the GSA site would be required into the site to accommodate peak hour demand, as suggested by the various options diagrammed in Figure 3-17. The need for this additional access, together with the cumulative effects of the proposed and pending redevelopment of Springfield, would drive transportation improvements that are not currently contained in county or state long-range plans to address the overall capacity shortfall to and from the Franconia-Springfield Transit Area. Deterioration in traffic conditions in Springfield from existing conditions to 2011 would occur, with or without redevelopment of the GSA site, which would be only one contributor to the growth in traffic. Other approved and proposed developments include the Boston Properties development and the redevelopment of Springfield Mall. Existing proffers, such as a bus connector proffer, Metropolitan Center Drive widening, and completion of the loop road between Springfield Center and Metropolitan Center Drive, combined with improvements developed as part of ongoing studies such as the redesign/reconstruction of the Frontier Drive/Franconia-Springfield Parkway interchange, would be required to meet the future travel demands in Springfield.

The Victory Center site is accessed from Eisenhower Avenue via three driveway locations. Eisenhower Avenue has limited access points and in contrast to the Springfield area has very little through traffic; therefore, it is more subject to peak hour congestion. Traffic impact studies and signal warrant studies suggest the need for a traffic signal for two of the three driveway locations. The studies also concluded that traffic signal timing and phasing modifications, along with turn lanes and other minor physical improvements at an adjacent intersection, would accommodate the additional traffic resulting from redevelopment at Victory Center. To the west, the bottleneck at the Van Dorn Street/Eisenhower Avenue intersection presents a constraint under existing conditions and beyond. However, the growth in background traffic in the South Van Dorn area will continue to be a problem, with or without development at Victory Center. Plans to improve Van Dorn Street and the Capital Beltway/Van Dorn Street interchange are identified in Fairfax County's Comprehensive Plan.

Access to the Eisenhower Valley is limited to Van Dorn Street, the Eisenhower Avenue Connector, and Telegraph Road. However, access improvements are already planned and under construction as part of the Woodrow Wilson Bridge Improvement Project. These improvements will increase capacity to and from the Eisenhower Valley. Based on the employee distribution shown in Figure 3-2, roughly one-quarter of BRAC 133 employees live in Maryland and would likely commute across the Woodrow Wilson Bridge. Additional ramps provided at the Telegraph Road and U.S. Route 1 interchanges directly onto Eisenhower Avenue will improve access into the Valley for commuters from Maryland and provide relief at the three existing entry points. Studies for the extension of Clermont Avenue as a four-lane roadway from Duke Street to Eisenhower Avenue are also included in VDOT's Six Year Plan, and this additional connection would also improve access to the site. Thus, in terms of contributing to the need for improvements beyond those currently planned or underway, the Victory Center site adds little.

As with Victory Center, development at Mark Center has been included in regional plans for some time. As the area surrounding Mark Center (described in Section 3.2.2.3) concentrates, improvements to the facilities serving this area may be required to maintain present LOSs. These improvements include intersection improvements at Beauregard Street and Little River Turnpike, improvements to Beauregard Street in the Landmark West area, intersection improvements at King Street and Beauregard Street, and upgrades to the I-395/Seminary Road interchange. The proposed I-95/I-395 high-occupancy toll (HOT) Lane Project includes a new direct connection to and from the south to the HOT lanes at this interchange. Also, a ROW for a direct connection to I-395 remains preserved as part of the original Mark Center development.

Transit Access. BRAC 133 agencies have included a parking policy as part of their relocation that limits the number of parking spaces constructed to 60 percent of the number of employees and would include shuttle bus service to Metro. To that end, the GSA site would provide access to the Metrorail system (Blue Line) and VRE at the Franconia-Springfield Transportation Center. Access would be provided via a proffered shuttle bus roadway and a potential pedestrian walkway (approximately 2,500 feet away) from the Boston Properties site to the station.

The Victory Center is a 2,600-foot walk to the Van Dorn Street Metro station (Blue Line) and is one station away from the VRE connection at the Franconia-Springfield Transportation Center. The site is three miles west of the Eisenhower Avenue Station (Yellow Line) and one station away from the VRE and Amtrak connection at the King Street Metro station.

Mark Center provides access to Metrorail via bus or shuttle ride to the Van Dorn Street, King Street, Pentagon City, and Pentagon Metro Stations on the Blue and Yellow Lines. Duke Realty provides a regularly scheduled free shuttle bus service to tenants of Mark Center directly to the Pentagon City Metro Station, located five miles north via I-395, which provides access to both the Blue and Yellow Lines. Shuttle bus privileges for BRAC 133 would be provided pending an agreement between the Army and the Mark Center developer or other means.

All three alternative sites provide access to transit, albeit the GSA and Victory Center sites more directly; however, the employee distribution suggests that it would be difficult to initially achieve the TMP goal of having 40 percent of employees arrive via non-SOV travel without aggressively promoting other measures as well, such as ridesharing.

Transportation Improvements. Table 3.2-2 summarizes transportation improvements required to access the sites and regional improvements required to maintain levels of service comparable to the No Action Alternative. These improvements are also shown in Figure 3-22, tagged by number to correspond to Table 3.2-2.

In Table 3.2-2, transportation infrastructure improvements are divided into three categories:

- Site access improvements are those that are required to facilitate ingress/egress to the site buildings and parking facilities.
- Local improvements are identified to maintain LOSs comparable to the No Action Alternative in the immediate vicinity of each site.
- Improvements to the regional transportation system cover a larger area in the vicinity of each site (as described in Section 3.2.2.3) to maintain levels of service comparable to the No Action Alternative. These improvements, however, may provide benefits to the surrounding community and other existing and/or proposed developments as well.

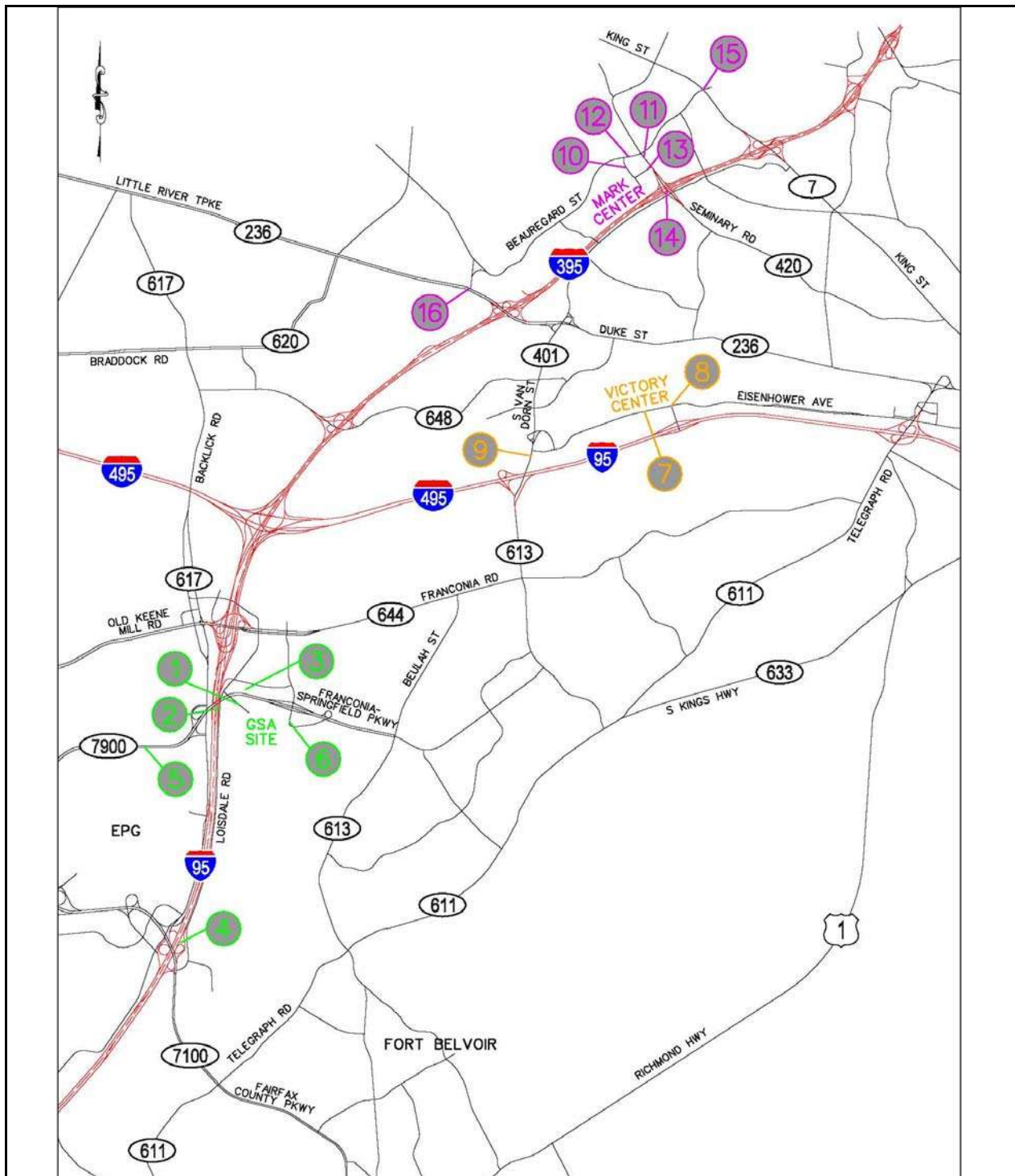
Conclusion. Long-term minor adverse effects would be expected with the implementation of either the GSA site, Victory Center, or Mark Center alternatives. Implementation of the potential transportation improvements that have been identified in conjunction with the proposed action would not result in significant adverse environmental effects based on information available at the time of this writing.

The finding of no significant impact from a transportation perspective was determined based on a comparison to the 2011 No Action Alternative as defined by the regional planning documents. Improvements were identified at locations where the LOS would drop two grades or reach LOS F as a result of the proposed action. These improvements were then grouped (see Table 3.2-2) as site access, improvements to the local roads, and improvements to the regional transportation infrastructure.

With the exception of the proposed Spring Mall Drive connection at the GSA site, the site access and local improvements at all three sites that would be required to return to and maintain the existing LOS would specifically complement the proposed action and are projects that are often termed “spot” improvements adjacent to the site. They include the addition of turn lanes, the installation or modification to traffic signals, and revised signing and marking to improve traffic flow. Site access and local improvements would be included as part of proffers for the Victory Center and Mark Center alternatives. At the GSA site, the Army would seek funding for the site access and local improvements through the Defense Access Roads (DAR) program, which is discussed further below.

At a regional level, the impacts from the proposed action are relatively minor (within the typical error range in terms of travel demand forecasts) when compared to current plans for the areas surrounding each site. All three site alternatives do contribute to the need for improvements to the surrounding transportation systems. The need for and design of these regional improvements, however, is driven by many factors, including other developments in the area that have already been or may eventually be approved by local jurisdictions. So while the regional improvements identified are required to maintain the level of service, they are separate actions that would have been generally identified in regional plans before development of the proposed action, and a multitude of existing and proposed developments, in addition to the proposed action, would benefit from the regional improvements. These regional improvements will undergo their own separate planning, design, environmental review, and approval processes.

Currently, the volume of traffic accessing the GSA site is minimal, as it serves as a warehouse with limited personnel. With the proposal to relocate BRAC 133 redevelopment at this location, more employees and vehicles would require access to the site. This action would be directly responsible for the widening of Metropolitan Center Drive and improvements to the intersections



**Transportation Improvements
for Each Alternative**

Figure 3-22

Table 3.2-2
Estimated transportation improvement costs and benefits for each alternative

Transportation improvement		ID# in Figure 3- 22	Benefit	Estimated cost in millions
GSA Site				
Site access	Four-lane Metropolitan Center Drive	1	Provides needed capacity improvements on the frontage roadway to the GSA site to accommodate the influx of BRAC 133 employees at the site.	\$3.0
	Improvements to Loisdale Road intersections - Option 1 (one-way pair) - Option 2 (two independent intersections)	2	Provides needed capacity improvements at the Loisdale Road intersections with access points into the GSA site. This improvement would help alleviate congestion because of the influx of BRAC 133 employees at this site.	Option 1: \$2.0; Option 2: \$2.5
Local improvements	Two-lane Spring Mall Drive connection	3	Constructs a direct connection from the Franconia-Springfield Parkway to the GSA site, which would alleviate congestion on Loisdale Road.	\$7.5
	I-95 northbound to eastbound Fairfax County Parkway off-ramp/Loisdale Road intersection	4	Provides needed capacity improvements to reduce delays and congestion and improve traffic flow for vehicles along the Parkway and exiting from I-95 to Loisdale Road.	\$1.5
	Signal and turn lane improvements at surrounding intersections	-	Provides needed capacity improvements, reduces congestion, and improves traffic flow at surrounding intersections.	\$5.0
Regional improvements	Loisdale Road ramp connection at I-95/Fairfax County Parkway interchange	4	Provides a direct connection to Loisdale Road from the Fairfax County Parkway interchange, which would alleviate congestion at the Parkway/Loisdale Road & I-95 off-ramp intersection and at the I-95/Spring Mall Drive ramp. The construction of this ramp would depend on the ultimate configuration chosen for this interchange; studies are underway to replace several of the loop ramps with directional ramps to increase capacity and improve traffic flow.	\$6.0
	Franconia-Springfield Parkway/Neuman Street interchange	5	Replaces the existing at-grade intersection on the Franconia-Springfield Parkway with a full interchange, which would reduce congestion and improve traffic flow along the Parkway.	\$50
	Extension of Frontier Drive and Franconia-Springfield Parkway/Frontier Drive interchange reconstruction	6	Constructs a connection from Frontier Road and the Franconia-Springfield Parkway to the GSA site, which would alleviate congestion on Spring Mall Drive and Loisdale Road.	\$75
Victory Center				
Site access	Traffic signal and turn lanes at driveway entrance	7	Improves access into the site, reduces delay for vehicles exiting the site, and improves traffic flow along Eisenhower Avenue near Victory Center.	\$0.2
Local improvements	Contribution to Eisenhower Avenue Intersection improvements (Eisenhower Avenue Connector and Van Dorn Street)	-	Reduces congestion and improves traffic flow along Eisenhower Avenue, which is an expected pathway for vehicles traveling to and from the Victory Center.	\$5.0

Table 3.2-2
Estimated transportation improvement costs and benefits for each alternative *(continued)*

Transportation improvement		ID# in Figure 3-22	Benefit	Estimated cost in millions
Victory Center, continued				
Regional improvements	Clermont Avenue extension	8	Extends the four-lane roadway from Duke Street to Eisenhower Avenue and provides additional access into Eisenhower Valley from the north.	\$15
	Van Dorn Street Corridor and interchange improvements	9	Reduces congestion at the Capital Beltway interchange and along Van Dorn Street, which is an expected pathway for vehicles traveling to and from the Victory Center.	\$50
Mark Center				
Site access	Mark Center Drive improvements	10	Provides needed capacity improvements on the frontage roadway to the buildings/parking structures to accommodate the influx of BRAC 133 employees at the site.	\$1.4
Local improvements	Construction of third left turn lane from northbound Seminary Road to westbound North Beauregard Street	11	Reduces delay and queues at intersection resulting from increase in left turning traffic approaching Mark Center Drive, the site's internal access road.	\$3.7
	Construction of second left turn lane from westbound North Beauregard Street to Mark Center Drive	12	Provides needed capacity for additional left turning traffic requiring access into the site.	\$2.7
	Construction of a second right turn lane from Mark Center Drive to southbound Seminary Road	13	This improvement was recommended in an earlier study and has already been constructed at this location.	N/A
Regional improvements	I-395/Seminary Road interchange improvements and HOV access ramp	14	Provides needed capacity improvements at the existing interchange and provides direct HOV access to/from the I-95/I-395 reversible HOV lanes.	\$40
	King Street (State Route 7) intersection improvements at Beauregard Street	15	Provides needed capacity improvements, reduces congestion, and improves traffic flow at intersection.	\$11
	Little River Turnpike intersection improvements at Beauregard Street	16	Provides needed capacity improvements, reduces congestion, and improves traffic flow at intersection.	\$35

Note: Shaded projects are included to be consistent with methodologies of the Fort Belvoir BRAC EIS that cited improvements that would be necessary in order to maintain a level of service in the surrounding areas comparable to the No Action Alternative.

of Metropolitan Center Drive with Loisdale Road. The Army will pursue implementation of the site access and local improvements listed in Table 3.2-2. This includes seeking DAR certification for the projects pursuant to Title 23 U.S.C. Section 210. It also includes commitment of funds to the projects that are certified in that process or seeking an additional appropriation if necessary. In the event that any of the projects are deemed not eligible for the DAR program, the Army will seek direct funding of the projects through the Congressional appropriation process. Without approval of the foregoing, the Army would not proceed with the GSA site alternative. The DAR program is discussed in greater detail at the end of this section and in Section 1.6.2. In addition, several improvements currently planned as part of the redevelopment of the entire Springfield area would reduce adverse effects from BRAC 133.

Effects to the transportation network for the GSA site alternative were determined based on the following assumptions; these effects would not be considered significant given the assumptions. The Boston Properties site and associated proffers (shuttle bus connector road and pedestrian walkway) would be constructed and available for use by BRAC 133. The site access

improvements would be funded by DAR or other means and constructed as detailed above. The site access and local improvements identified in Table 3.2-2 would be completed in conjunction with the redevelopment of Springfield. A site-specific TMP consistent with the overall Fort Belvoir TMP will be developed and staffed as part of the proposed action. The TMP would manage travel demand to the site and encourage use of mass transit.

Even with the site access and local improvement projects, there are still adverse effects at the regional level, but they are not significant effects in the context of overall traffic issues in the region. None of the alternatives would cause the regional plans to be materially changed. For these reasons, the effect of the GSA site alternative at the regional level would not be significant.

The Victory Center has been approved for redevelopment and will be occupied with or without BRAC 133. Additional access to and from Eisenhower Valley is already programmed through the Woodrow Wilson Bridge project. In addition, improvements to the corridors serving the Eisenhower Valley area are contained in regional plans.

Like Victory Center, Mark Center has been approved for development by the City of Alexandria and a number of improvements have been or are currently being studied to meet the travel demands of this area. Improvements to King Street and the HOT lanes project appear to be on track for completion within the BRAC timeframe. Improvements to address Little River Turnpike and Beauregard Street have not yet been moved forward. Severe congestion associated with southbound I-395 will create queues in the evening that are likely to back onto Seminary Road and impact egress from Mark Center.

Development at all three sites conforms to regional planning, and transportation improvements considered necessary to support the developments have been identified. Over the next ten years, it is likely that all three sites will be developed regardless of the decision on where to site BRAC 133. Needed or desired improvements are at varying stages in the project development, approval, and funding process. Based on the current status, it appears that more of the regional improvements associated with the Victory Center are likely to be in place by 2011 or shortly thereafter.

Construction and implementation of offsite improvements and expansion of regional transportation systems services is the responsibility of local and state agencies. Various federal programs provide funding to assist in the implementation of approved plans. For larger, private sector developments, financial contributions are often obtained. Approval of Victory Center by the City of Alexandria includes a TMP that calls for an initial contribution of \$50,000 at occupancy and \$1.50 per gross square foot, or \$793,000 based on the current plan. The TMP also includes an annual contribution of \$0.18 per occupied square foot.

In the case of federal facilities, funding assistance beyond the onsite and access costs is sought through the available programs to supplement current funding levels. The DAR program provides a means by which DoD can contribute to the cost of highway improvements needed for adequate highway service to defense and defense-related installations. Administered jointly with the Federal Highway Administration (FHWA), the DAR program provides a means for the Department of Defense to work with the state and local authorities that execute the projects. Funding for DAR projects may be obtained through Military Construction Programs funds appropriated by Congress.

To initiate a DAR project, the Army must identify the access or mobility needs of an installation and bring such deficiencies to the attention of the Surface Deployment and Distribution

Command (SDDC). In turn, SDDC prepares a needs evaluation or requests the FHWA to make an evaluation for improvements that are necessary, in accordance with 23 CFR Part 660E; develop a cost estimate; and determine the scope of work. The SDDC determines whether the project is eligible for funding pursuant to the DAR program and certifies the road as important to the national defense. Upon certification, the Army may request funding through its normal budgeting process. Once funds are provided by Congress, they are transferred to the FHWA and allocated to the agency administering the project.

The Army, FHWA, and VDOT are working together to seek funding from the available programs for transportation improvements in the areas surrounding BRAC sites. Funding beyond the levels provided under the approved programs requires approvals through the political process.

3.3 AIR QUALITY

This air quality analysis includes a description of the existing air quality conditions, a general conformity analysis, a regulatory review, and a discussion of microscale carbon monoxide (CO) concentrations resulting from potential changes in traffic patterns.

3.3.1 Affected Environment

National Ambient Air Quality Standards and Local Ambient Air Quality. U.S. Environmental Protection Agency (USEPA) Region 3 and VDEQ regulate air quality in Virginia. The Clean Air Act (CAA) (42 U.S.C. 7401-7671q), as amended, gives the USEPA responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) that set acceptable concentration levels for seven criteria pollutants: particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), sulfur dioxide (SO₂), carbon monoxide (CO), nitrous oxides (NO_x), ozone (O₃), and lead. Short-term NAAQS (1-, 8-, and 24-hour periods) have been established for pollutants contributing to acute health effects, while long-term NAAQS (annual averages) have been established for pollutants contributing to chronic health effects. While each state has the authority to adopt standards stricter than those established under the federal program, the Commonwealth of Virginia accepts the federal standards.

Existing ambient air quality conditions can be estimated from measurements conducted at nearby air quality monitoring stations (Table 3.3-1). With the exception of the 8-hour O₃ NAAQS, most recent air quality measurements are below the NAAQS (USEPA, 2007a). The reported measurement for Fairfax County of 0.125 parts per million (ppm) for the 8-hour O₃ level exceeds the primary NAAQS of 0.08 ppm. This exceedance is expected, because the region has been designated a moderate nonattainment area for O₃.

Attainment Status. Federal regulations designate Air-quality Control Regions (AQCRs) in violation of the NAAQS as *nonattainment* areas. Federal regulations designate AQCRs with levels below the NAAQS as *attainment* areas. *Maintenance* AQCRs are areas that have previously been designated nonattainment and have been redesignated to attainment for a probationary period through implementation of maintenance plans. According to the severity of the pollution problem, nonattainment areas can be categorized as marginal, moderate, serious, severe, or extreme.

Fairfax County and the City of Alexandria (and therefore the GSA site, Victory Center, and Mark Center) are within the National Capital Interstate AQCR (AQCR 47) (40 CFR 81.12). AQCR 47 is in the O₃ transport region (OTR) that includes 12 states and Washington, DC. The USEPA has designated Fairfax County and the City of Alexandria as the following:

- Moderate nonattainment for the 8-hour O₃ NAAQS
- Nonattainment for the PM_{2.5} NAAQS
- Maintenance area for the CO NAAQS (City of Alexandria only)
- Attainment for all other criteria pollutants (40 CFR 81.347)

GSA Site, Victory Center, Mark Center, and Regional Emissions. Existing stationary sources of air emissions at the GSA warehouse include several boilers. Based on the site's potential to emit, the GSA warehouse is a minor source of air emissions. A facility wide operating permit was reissued to GSA on 22 June 2007 (permit number 5105900012). There are no existing permitted stationary sources of air emissions on either the Victory Center or Mark Center sites.

Within their State Implementation Plan (SIP) of the CAA, the MWCOG compiles a regional emissions inventory and sets regional emissions budgets. The current USEPA-approved SIP revisions for the region estimates 487.5 tons per day (tpd) of NO_x, 325.8 tpd of volatile organic compounds (VOC), and 1,209.5 tpd of CO for the region (MWCOG, 2004a; MWCOG, 2004b). The region has no applicable SIP for the 8-hour O₃ or the PM_{2.5} NAAQS.

Table 3.3-1
2006 Local ambient air quality monitoring

Pollutant and averaging time	Primary NAAQS ^a	Secondary NAAQS ^a	Monitored data ^b	Location where maximum was recorded
CO				
8-hour maximum ^c (ppm)	9	(None)	2.5	Arlington County
1-hour maximum ^c (ppm)	35	(None)	2.9	Fairfax County
NO_x				
Annual arithmetic mean (ppm)	0.053	0.053	0.018	Arlington County
O₃				
8-hour maximum ^d (ppm)	0.08	0.12	0.125	Fairfax County
PM_{2.5}				
Annual arithmetic mean ^e (µg/m ³)	15	15	13.2	Arlington County
24-hour maximum ^f (µg/m ³)	65	65	46	Fairfax County
PM₁₀				
Annual arithmetic mean ^g (µg/m ³)	50	50	23	Alexandria City
24-hour maximum ^c (µg/m ³)	150	150	70	Alexandria City
SO₂				
Annual arithmetic mean (ppm)	0.03	(None)	0.006	Fairfax County
24-hour maximum ^c (ppm)	0.14	(None)	0.036	Alexandria City
3-hour maximum ^c (ppm)		0.5	0.067	Alexandria City

ppm = parts per million; µg/m³ = micrograms per cubic meter; NO₂ = Nitrogen dioxide

Notes:

^a Source: 40 CFR 50.1-50.12.

^b Source: USEPA, 2007a.

^c Not to be exceeded more than once per year.

^d The 3-year average of the fourth highest daily maximum 8-hour average ozone concentrations over each year must not exceed 0.08 ppm.

^e The 3-year average of the weighted annual mean PM_{2.5} concentrations from must not exceed 15.0 µg/m³.

^f The 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor must not exceed 65 µg/m³.

^g The 3-year average of the weighted annual mean PM₁₀ concentration at each monitor within an area must not exceed 50 µg/m³.

3.3.2 Environmental Consequences

3.3.2.1 Alternative A: GSA Site

Implementing the GSA site alternative would have both short- and long-term minor adverse effects to air quality. However, increases in emissions would conform to the SIP, and would not result in significant adverse effects as they would not violate federal, state, or local air regulations. The conveyance of the property from GSA to the Army would not generate any air emissions, and would have no effect on air quality.

Implementing the GSA site alternative could affect air quality in three ways: generating pollutants during construction; introducing new stationary sources of pollutants, such as heating boilers and standby generators; and changes in vehicular traffic that could raise vehicle emission levels locally. All direct and indirect emissions associated with the GSA site alternative were estimated (Table 3.3-2). The construction emissions were generated by estimating equipment use for site preparation, construction, and landscaping for the new facilities, including:

- Demolition of existing structures
- Construction of the new administrative facility
- Surface parking areas
- Roadways and traffic control upgrades
- Storm water and sewer upgrades.

The facility's operational emissions estimates included emissions from personal vehicles operated by employees, from natural gas boilers generating heat; and from emergency generators.

Detailed emissions calculations are reported in Appendix E.1.

General Conformity. To determine the applicability of the General Conformity Rules (GCR) to the GSA site alternative, estimated air emissions from proposed construction activities, and stationary and mobile sources were analyzed under the City Center Alternative in the *Final General Conformity Determination (GCD) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007b). Under the GSA site alternative being analyzed in this EA, the building size is smaller and construction schedule is unchanged when compared to the Fort Belvoir BRAC GCD. It would be expected that the emissions impact associated with this alternative would be less than that described in the GCD. Notably, regardless of the siting of the BRAC 133 facility, the emissions for all the scenarios outlined in the GCD were assumed to be approximately the same. To determine whether the GCR was applicable, net (project-related) emission levels of VOCs, NO_x, PM_{2.5}, and SO₂ for all BRAC-related projects at Fort Belvoir were compared to applicability threshold levels. The applicability threshold levels for the 8-hour O₃ and PM_{2.5}

Table 3.3-2
Total estimated emissions for the GSA site alternative

Year	Estimated emissions (tpy)			
	NO _x	VOC	PM _{2.5}	SO ₂
2007	5.0	0.3	0.9	0.8
2008	32.7	9.2	2.0	4.2
2009	57.3	16.8	3.3	7.8
2010+	23.7	-1.0	3.7	3.0

tpy = tons per year

NAAQS were used (50 tons of VOCs or 100 tons of NO_x, PM_{2.5}, and SO₂). Based on the results of the comparison, it was determined that the GCR applied with respect to NO_x.

The NO_x emissions of primary concern result from construction activities involving the use of various “non-road” equipment, power generators, and trucks. In general, emissions estimates and budgets for these types of activities are developed and included in the SIP. In coordination with the Army, VDEQ determined and certified that the BRAC 133 action and the resulting emissions at Fort Belvoir are accounted for in the GCD (VDEQ, 2007a; USACE, 2007b). The certification letter of conditional concurrence from VDEQ is provided in Appendix E.4. Table 3.3-3 outlines the BRAC 133 construction emissions and all BRAC-related construction emissions at Fort Belvoir, and demonstrates they do not either exceed the 1-hour, nor the draft 8-hour, SIP allocations.

Regulatory Review and Air Permit Requirements. Stationary sources of air emissions associated with the GSA site alternative would be subject to federal and state air permitting regulations. These requirements include, but are not limited to, minor new source review (NSR), nonattainment new source review (NNSR), prevention of significant deterioration (PSD), and new source performance standards (NSPS) for selected categories of industrial sources. In addition, under the National Emission Standards for Hazardous Air Pollutants (NESHAP), new and modified stationary sources of air emissions may be subject to Maximum Achievable Control Technology (MACT) requirements if their potential to emit Hazardous Air Pollutants (HAPs) exceeds either 10 tons per year of a single HAP, or 25 tons per year of all regulated HAPs.

The new facilities would be equipped with several natural gas boilers and emergency generators. No other stationary sources of air emissions are planned. Estimated potential emissions from proposed new sources are outlined in Table 3.3-4.

Table 3.3-3
Comparison of project-related construction emissions to SIP-based inventories
(tons per day [tpd])

Year	1-Hour SIP ozone construction budget (tpd)		Draft 8-Hour SIP ozone construction budget (tpd)		BRAC 133 construction emissions	All BRAC-related construction emissions at Fort Belvoir	Exceeds 1-hour or Draft 8-hour SIP allocation? (Yes/No)
	Fairfax County	Fort Belvoir	Fairfax County	Fort Belvoir			
2007	15.4	2.13	5.63	1.21	0.02	0.37	No
2008 ^a	15.4	2.13	5.63	1.21	0.14	1.01	No
2009 ^{a,c}	15.4	2.13	5.43	1.18	0.25	1.18	No
2010 ^b	15.4	2.13	5.43	1.18	0.01	1.13	No
2011	15.4	2.13	5.43	1.18	0.00	0.13	No

Sources: VDEQ, 2007a; USACE, 2007b.

Notes:

^a Milestone Budget Year

^b Act-mandated Attainment Year

^c Year of Greatest Annual Project-related Emissions

Table 3.3-4
Estimated potential to emit (PTE) for stationary sources
under the proposed action for all alternatives

Source	Estimated emissions (tpy)				
	NO _x	VOC	PM	SO ₂	CO
Emergency Generators	21.4	0.4	0.1	0.6	1.2
Boilers	10.5	1.4	2.8	2.3	21.9
Total	31.8	1.9	3.0	2.9	23.1

tpy = tons per year

Exceedance of the major new source thresholds of 100 tpy would not be anticipated with the GSA alternative. A NNSR permit would not be required for the proposed facilities. It is unlikely that the existing permit would be transferable to the Army. Therefore, a new minor NSR permit would be required to construct new stationary sources of emissions. Proposed sources may require a Best Available Control Technology (BACT) review for each criteria pollutant, a MACT review for regulated HAPs, and designated categories and predictive air dispersion modeling, depending upon VDEQ's requests. The GSA site is discontinuous with respect to Fort Belvoir's Main Post; therefore, it meets the requirements of separate facility. Within a year of initiation of operation, a *minor* or *synthetic minor* operating permit would be required for the stationary sources of air emissions. Operating permits are used to combine stationary source requirements under one permit. The regulatory requirements and their applicability to the proposed stationary sources are outlined in Table 3.3-5.

In December of 2006, a federal appellate court issued a slip opinion in which the court partially invalidated USEPA's implementation of the 8-hour ozone standard (U.S. Court of Appeals, 2006). On June 8, 2007, the U.S. Court of Appeals for the District of Columbia Circuit reaffirmed its decision stating that the USEPA improperly determined that areas designated as nonattainment under the 1-hour ozone NAAQS would no longer be subject to 1-hour NSR requirements (USEPA, 2007b). As of the time of this writing, no changes in effective regulations have been

Table 3.3-5
Air quality regulatory review for proposed stationary sources
under the proposed action for all alternatives

Regulation	Project Status
NNSR (9 VAC 5-80-2000 to 2240)	The potential emissions would not exceed the NNSR thresholds. Therefore, a NNSR construction permit would not be required.
NSR (9 VAC 5-80-10 and 11)	The emergency generators' potential emissions exceed the minor NSR threshold. Therefore, a minor NSR construction permit would be required.
PSD (9 VAC 5-50-10)	Potential emissions would not exceed the 250-tpy PSD threshold. Therefore, the project would not be subject to PSD review.
Title V Permitting Requirements (9 VAC 5-80-50)	Major source threshold would not be exceeded and a Title V Air Permit would not be required. Within a year of operation, a <i>minor</i> or <i>synthetic minor</i> State Operating Permits would be required.
NESHAP	Potential HAP emissions are not anticipated to exceed NESHAP thresholds. Therefore, the use of MACT would not be required.
NSPS	Both emergency generators and boilers would be subject to NSPS. Oil or dual-fired boilers with heat input greater than one million BTU per hour or a natural gas fired unit with heat input greater than 10 million BTU per hour would have to comply with NSPS.

tpy = tons per year

issued based on this court decision. If at the time of permitting the PTE exceeds major new source thresholds, engineering controls or federally enforceable limits on the hours of operation would be established to remain a minor source.

Mobile Emissions. Mobile emissions of concern include primarily automobiles and vehicular traffic. The primary air pollutants from mobile-sources are CO, NO_x, and VOCs. Lead emissions from mobile sources have declined in recent years through the increased use of unleaded gasoline and are extremely small. Potential SO₂ and particulate emissions from mobile sources are small compared to emissions from point sources, such as power plants and industrial facilities. Air quality impacts from traffic are generally evaluated on two scales: *mesoscale* and *microscale*.

Mesoscale analysis is performed at the regional level. NO_x, VOCs, PM_{2.5}, and SO₂ are of regional concern in nonattainment areas for O₃ and PM_{2.5}. Changes in traffic patterns in AQCR 47 resulting from the GSA site alternative would introduce very small changes in regional O₃ and PM_{2.5} levels. The Metropolitan Planning Organization, using regional O₃ airshed models, generally evaluates regional effects on O₃. Mesoscale analysis is not generally conducted on a project-specific basis and is not necessary for this EA. The number of personnel at the GSA site would increase under this alternative. However, the new personnel and the miles they currently commute are already within the National Capital AQCR. A regional decrease in both the number of vehicles and subsequently the total vehicle miles traveled within the National Capital AQCR would occur (USACE, 2007a).

Microscale analysis is performed to identify localized hot spots of criteria pollutants. CO is a site-specific pollutant with higher concentrations found adjacent to roadways and signalized intersections. Microscale analysis is often conducted on a project-specific basis in regions where CO is of particular concern. Increases in localized traffic near the GSA site would result in an increase in traffic congestion and subsequent long-term minor increases in localized CO concentrations at nearby intersections. These minor increases would not be expected to contribute to a violation of the CO NAAQS (Table 3.3-6). Methodology for the determination of localized CO concentrations at intersections of interest can be found in Appendix E.2.

The traffic associated with the GSA site alternative is not anticipated to be an air quality concern for particulate matter (PM) because it does not involve any new highways or expressways, and the intersections affected are primarily secondary arterial roads (USEPA, 2006). In addition, Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics emitted from highway vehicles and non-road equipment. As with PM, traffic associated with the GSA site alternative is

Table 3.3-6
Peak hour CO levels under the GSA site alternative

Intersection	Maximum 1-Hour CO concentration (ppm) ^a	1-Hour NAAQS for CO (ppm)	Maximum 8-Hour CO concentration (ppm) ^a	8-Hour NAAQS for CO (ppm)	Exceeds NAAQS? (Yes/No)
Loisdale Road and Spring Mall Drive	7.1	35.0	5.0	9.0	No
Franconia-Springfield Parkway and Frontier Drive	7.0	35.0	4.9	9.0	No
Franconia Road and Loisdale Road	7.0	35.0	4.9	9.0	No
Franconia-Springfield Parkway and Spring Village Drive	6.3	35.0	4.4	9.0	No

Source: 40 CFR 50.1-50.12.

^a CO levels include background concentrations of 3.7 ppm 1-hour and 2.5 ppm 8-hour.

not anticipated to be an air quality concern for MSATs because the intersections affected are primarily secondary arterial roads, and new traffic is expected to be below the threshold that would have potential for meaningful MSAT effects. Quantitative procedures to address PM and MSATs are not standard practice for nontransportation projects on secondary arterials; therefore they are not included in this EA (FHWA, 2006).

3.3.2.2 **Alternative B: Victory Center**

Implementing the Victory Center Alternative would be expected to have short- and long-term minor adverse effects to air quality. Increases in emissions, however, would not be significantly adverse as they would be *de minimis*, would not introduce localized CO concentrations greater than the NAAQS, and would not be expected to contribute to a violation of any federal, state, or local air regulations. The conveyance of the Victory Center property from its current owners to the Army would not generate any air emissions, and would have no effect on air quality.

General Conformity. The Victory Center alternative was not analyzed under the *Final General Conformity Determination (GCD) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007b). To determine the applicability of the GCR to the Victory Center alternative, air emissions from construction and proposed stationary and mobile sources were estimated and compared to the applicability thresholds under the GCR (Table 3.3-7). The requirements of this rule are not applicable because the highest total annual direct and indirect emissions from this alternative would not exceed the applicability threshold for any criteria pollutant during any years, and would not be regionally significant. After completion of construction, the proposed activities would constitute a net decrease in VOCs and CO emissions within the region primarily due to the decrease in vehicle miles traveled within the NCR. Detailed emissions calculations and a Record of Non-applicability (RONA) for the Victory Center alternative are provided in Appendix E.3.

Regulatory Review and Air Permit Requirements. Stationary sources of air emissions associated with the Victory Center alternative would be similar to those outlined under the GSA site alternative and subject to federal and state air permitting regulations (Table 3.3-4). The new facilities would be equipped with several natural gas boilers and emergency generators. No other stationary sources of air emissions would be anticipated. Estimated potential emissions from proposed new sources are outlined in Table 3.3-6. All permitting and regulatory requirements would be similar to those outlined under the GSA site alternative (Table 3.3-5).

Table 3.3-7
Total estimated emissions for the Victory Center alternative

Year	Estimated emissions (tpy)				
	CO	NO _x	VOC	PM _{2.5}	SO ₂
2008	14.0	38.0	3.2	2.5	5.0
2009	22.0	29.5	4.3	2.0	4.0
2010	36.5	72.1	7.4	5.0	10.4
2011	41.1	43.3	7.5	3.7	6.4
2012+	-11.6	23.7	-1.0	3.7	3.0
<i>De minimis</i> threshold	100	100	50	100	100
Exceeds threshold?	No	No	No	No	No

tpy = tons per year

The Covanta Alexandria/Arlington Waste-to-Energy Facility is a solid waste incinerator located approximately 0.4 miles west (upwind) of the Victory Center. Controls at the facility include fabric filters, scrubbers with lime injection for control of acid gases, ammonia and carbon injection, and state-of-the-art combustion controls and continuous emissions monitoring system. Extensive modeling and stack testing of air pollutants has been conducted for the facility (City of Alexandria, 2004). Intermittent odors from the incinerator would be noticeable at the Victory Center location. However, the incinerator emissions would not likely endanger the health or welfare of the BRAC 133 personnel under this alternative.

Mobile Emissions. A regional decrease in both the number of vehicles and subsequently the total vehicle miles traveled within the National Capital AQCR would occur (USACE, 2007a). Although the number of personnel at the Victory Center would increase, the new personnel and the miles they currently commute are already within the AQCR. Since the Victory Center is within a CO maintenance area, microscale analysis was conducted for this alternative. Increases in localized traffic near the Victory Center would result in an increase in traffic congestion and subsequent long-term minor increases in localized CO concentrations at nearby intersections (Table 3.3-8). These minor increases would not be expected to contribute to a violation of the CO NAAQS. Methodology for the determination of localized CO concentrations at intersections of interest can be found in Appendix E.2.

As with the GSA site Alternative, traffic associated with the Victory Center alternative is not anticipated to be an air quality concern for PM because it does not involve any new highways or expressways, and the intersections affected are primarily secondary arterial roads (USEPA, 2006). In addition, traffic from these intersections is not anticipated to be an air quality concern for MSAT because the intersections affected are primarily secondary arterial roads and new traffic is expected to be below the threshold that would have potential for meaningful MSAT effects (FHWA, 2006).

Table 3.3-8
Peak hour CO levels under the Victory Center alternative

Intersection	Maximum 1-Hour CO concentration (ppm) ^a	1-Hour NAAQS for CO (ppm)	Maximum 8-Hour CO concentration (ppm) ^a	8-Hour NAAQS for CO (ppm)	Exceeds NAAQS? (Yes/No)
Eisenhower Avenue and Van Dorn Street	6.4	35.0	4.5	9.0	No
Eisenhower Avenue and Metro Road	5.5	35.0	3.9	9.0	No

Source: 40 CFR 50.1-50.12

^aCO levels include background concentrations of 3.7 ppm 1-hour and 2.5 ppm 8-hour.

3.3.2.3 **Alternative C: Mark Center**

Implementing the Mark Center Alternative would be expected to have short- and long-term minor adverse effects to air quality. Increases in emissions, however, would not be significantly adverse as they would be *de minimis*, would not introduce localized CO concentrations greater than the NAAQS, and would not be expected to contribute to a violation of any federal, state, or local air regulations. The conveyance of the Mark Center property from its current owners to the Army would not generate any air emissions, and would have no effect on air quality.

General Conformity. The Mark Center alternative was not analyzed under the *Final General Conformity Determination for Implementation of 2005 Base Realignment and Closure (BRAC)*

Recommendations and Related Army Actions at Fort Belvoir, Virginia (USACE, 2007b). To determine the applicability of the GCR to the Mark Center alternative, air emissions from construction and proposed stationary and mobile sources were estimated and compared to the applicability thresholds under the GCR (Table 3.3-9). The requirements of this rule are not applicable because the highest total annual direct and indirect emissions from this alternative would not exceed the applicability threshold for any criteria pollutant during any year, and would not be regionally significant. After completion of construction, the proposed activities would constitute a net decrease in VOCs and CO emissions within the region primarily due to the decrease in vehicle miles traveled within the NCR. Detailed emissions calculations and a RONA for the Mark Center alternative are provided in Appendix E.3.

Regulatory Review and Air Permit Requirements. Stationary sources of air emissions associated with the Mark Center alternative would be similar to those outlined under the GSA site alternative and subject to federal and state air permitting regulations (Table 3.3-4). The new facilities would be equipped with several natural gas boilers and emergency generators. No other stationary sources of air emissions would be anticipated. Estimated potential emissions from proposed new sources are outlined in Table 3.3-6. All permitting and regulatory requirements would be similar to those outlined under the GSA site alternative (Table 3.3-5).

Mobile Emissions. A regional decrease in both the number of vehicles and subsequently the total vehicle miles traveled within the National Capital AQCR would occur (USACE, 2007a). Although the number of personnel at the Mark Center would increase, the new personnel and the miles they currently commute are already within the AQCR. Since the Mark Center is within a CO maintenance area, microscale analysis was conducted for this alternative. Increases in localized traffic near the Mark Center would result in an increase in traffic congestion and subsequent long-term minor increases in localized CO concentrations at nearby intersections (Table 3.3-10). These minor increases would not be expected to contribute to a violation of the CO NAAQS. Methodology for the determination of localized CO concentrations at intersections of interest can be found in Appendix E.2.

As with the GSA site Alternative, traffic associated with the Mark Center alternative is not anticipated to be an air quality concern for PM because it does not involve any new highways or expressways, and the intersections affected are primarily secondary arterial roads (USEPA, 2006). In addition, traffic from these intersections is not anticipated to be an air quality concern

Table 3.3-9
Total estimated emissions for the Mark Center alternative

Year	Estimated emissions (tpy)				
	CO	NO _x	VOC	PM _{2.5}	SO ₂
2008	11.8	31.5	2.5	2.1	4.3
2009	21.6	36.4	4.3	2.7	5.0
2010	41.3	79.1	8.3	5.4	11.4
2011	43.3	43.5	7.9	3.7	6.4
2012+	-11.6	23.7	-1.0	3.7	3.0
De minimis threshold	100	100	50	100	100
Exceeds threshold?	No	No	No	No	No

tpy = tons per year

Table 3.3-10
Peak hour CO levels under the Mark Center alternative

Intersection	Maximum 1-Hour CO concentration (ppm) ^a	1-Hour NAAQS for CO (ppm)	Maximum 8-Hour CO concentration (ppm) ^a	8-Hour NAAQS for CO (ppm)	Exceeds NAAQS? (Yes/No)
Mark Center Dr and Seminary Rd	5.1	35.0	3.6	9.0	No
North Beauregard St and Seminary Rd	7.1	35.0	5.0	9.0	No
Mark Center Dr and North Beauregard St	6.1	35.0	4.3	9.0	No

Source: 40 CFR 50.1-50.12

^aCO levels include background concentrations of 3.7 ppm 1-hour and 2.5 ppm 8-hour.

for MSAT because the intersections affected are primarily secondary arterial roads and new traffic is expected to be below the threshold that would have potential for meaningful MSAT effects (FHWA, 2006).

3.3.2.4 No Action Alternative

Under the No Action Alternative, BRAC 133 would not be implemented and no BRAC 133 construction or operational activities would take place. Therefore, the changes in ambient air quality conditions otherwise expected from BRAC 133 would not occur.

3.3.3 BMPs/Mitigation

GSA Site. BMPs would be required and implemented for both construction emissions and stationary point source emissions associated with the GSA site alternative. The construction would be accomplished in full compliance with current and pending Virginia regulatory requirements, with compliant practices and/or products. These requirements include:

- Visible emissions and fugitive dust and emissions (9 VAC 5-40-60)
- Asphalt paving operations (9 VAC 5-40-5490)
- Open burning (9 VAC 5-40-5600)
- Portable fuel containers (9 VAC 5-40-5700)
- Architectural and industrial maintenance coatings (9 VAC 5-40-7120)
- Consumer products (9 VAC 5-40-7240 *et seq.*).

The portable fuel container and consumer products rules are being revised, and more restrictive requirements will be in effect no later than 2009. This listing is not all-inclusive; the Army and any contractors would comply with all applicable air pollution control regulations.

In addition to BMPs, as requirements negotiated with VDEQ in the GCD for the Fort Belvoir BRAC action, the Army would implement mitigation measures to reduce air quality impacts (USACE, 2007b). These mitigation measures were established to reduce the emissions associated with the overall BRAC action at Fort Belvoir to a level where they could reasonably be accounted for in the SIP. The measures are detailed in a Construction Performance Plan (CPP) provided in Appendix E.5 and would include:

- Limiting construction on Code Orange, Red, and Purple ozone days
- Limiting the use of off-road trucks on the project site
- Requiring all off-road diesel equipment not meeting Tier 2 or better standards be retrofitted with emission control devices

- Implementing anti-idling restrictions for both on-road and off-road vehicles and equipment
- The use of Ultra-Low Sulfur Diesel (ULSD), alternate fuels, or fuel additives
- Meeting new engine standards for off-road vehicles.

Victory Center. Unlike the GSA site alternative, the Victory Center alternative was an unforeseeable action at the time the Fort Belvoir BRAC GCD was written and is a distinctly different activity from the situation outlined in the GCD. Emissions would not exceed *de minimis* thresholds under this alternative, therefore, apart from general BMPs listed in Table 3.14-1 in Section 3.14, the Army would not need to implement mitigation measures to reduce the air quality impacts as described therein.

Mark Center. Unlike the GSA site alternative, the Mark Center alternative was an unforeseeable action at the time the Fort Belvoir BRAC GCD was written and is a distinctly different activity from the situation outlined in the GCD. Emissions would not exceed *de minimis* thresholds under this alternative, therefore, apart from general BMPs listed in Table 3.14-1 in Section 3.14, the Army would not need to implement mitigation measures to reduce the air quality impacts as described therein.

3.4 NOISE

3.4.1 Affected Environment

Overview and Regulatory Requirements. Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's *quality of life*, such as construction or vehicular traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The dB is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz (Hz) are used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighting", measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Sounds encountered in daily life and their dBA levels are provided in Table 3.4-1.

The dBA noise metric describes steady noise levels, although very few noises are, in fact, constant. Therefore, A-weighted Day-night Sound Level (ADNL) has been developed. Day-night Sound Level (DNL) is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10 p.m. to 7 a.m.). DNL is a useful descriptor for noise because: (1) it averages ongoing yet intermittent noise, and (2) it measures total sound energy over a 24-hour period. In addition, Equivalent Sound Level (L_{eq}) is often used to describe the overall noise environment. L_{eq} is the average sound level in dB.

**Table 3.4-1
Common sounds and their levels**

Outdoor	Sound level (dBA)	Indoor
Motorcycle	100	Subway train
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringling telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator
Quiet residential area	40	Library

Source: Harris, 1998.

The Noise Control Act of 1972 (PL 92-574) directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. In 1974, the USEPA provided information suggesting continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses such as residences, schools, churches, and hospitals.

Both the Alexandria City Code and the Fairfax County Code prohibit the creation of sound louder than 55 dB in a residential area, and 60 dB in a commercial area. In addition, they prohibit the creation of any excessive noise on any street adjacent to any school, institution of learning, court, or hospital that interferes with its function (Fairfax County Code Section 108-4-1 and Alexandria City Code 1963, Sec. 22A-1). Sounds generated from construction and demolition activities are exempt from the Fairfax County ordinance between 7:00 A.M. and 9:00 P.M.

Existing Conditions. Existing sources of noise near the proposed GSA and Mark Center sites include road and highway traffic (particularly I-95 and I-395), high-altitude aircraft overflights, lawn maintenance equipment, and natural noises such as the rustling of leaves and bird vocalizations. The nearest hospital (Inova Fairfax Hospital), school (Forestdale Elementary), and church (Springfield Church of Christ) are greater than one mile away from the GSA site. The Victorious Life Church and Church of the Resurrection are less than one-half mile from the Mark Center site. The nearest hospital (Dale City Women's Medical Center) and school (Wakefield High School) are greater than a mile away.

Existing sources of noise near the proposed Victory Center include rail traffic (a Norfolk Southern railroad parallels the northern boundary of the site and a Metro line is to the south of Eisenhower Avenue), a nearby police firing range, local road traffic, high-altitude aircraft overflights, and natural noises such as vegetation and bird vocalizations. There are several schools and churches within one-half mile from the Victory Center, including Samuel W. Tucker Elementary School, Holly Hill School, Abundant Life Christian Center, and Baha'i Faith of Northern Virginia. The nearest hospital (Inova Alexandria Hospital) is greater than one mile away.

Existing noise levels (L_{eq} and ADNL) were estimated for the alternative sites and surrounding areas using the techniques specified in the "American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound Part 3: Short-term measurements with an observer present" (Table 3.4-2) (ANSI, 2003).

Table 3.4-2
Estimated existing noise levels at proposed sites (dBA)

Location	L_{eq} (daytime)	L_{eq} (nighttime)	ADNL
GSA Site	58	52	60
Victory Center	53	47	55
Mark Center	58	52	60

Source: ANSI, 2003.

3.4.2 Environmental Consequences

3.4.2.1 Alternative A: GSA Site

Short-term minor and long-term negligible adverse effects to the noise environment would be expected with the implementation of the GSA site alternative. Effects would be considered significantly adverse if long-term increases in the number of people highly annoyed by the noise environment or unacceptable increases in noise environment for sensitive receptors would occur, or noise levels would contribute to a violation of any federal, state or local noise regulation such as the noise ordinance for Fairfax County discussed in Section 3.4.1. However, long-term adverse effects from the BRAC 133 action would not be expected to be significant as none of these types of increases would be expected and long-term operational noise levels would remain below local noise ordinance levels. The effects would be primarily due to heavy equipment noise during demolition and construction activities. Long-term negligible adverse effects could also occur due to noise from continued operational and RIF activities from implementation of BRAC 133, similar to existing warehouse traffic and truck deliveries.

Individual pieces of construction equipment typically generate noise levels of 80 to 90 dBA at a distance of 50 feet. With multiple items of equipment operating concurrently, noise levels can be relatively high during daytime periods at locations within several hundred feet of active construction sites. The zone of relatively high construction noise typically extends to distances of 400 to 800 feet from the site of major equipment operations. Locations more than 1,000 feet from construction sites seldom experience noteworthy levels of construction noise. Construction noise would have short-term minor adverse effects on all sensitive receptors, including residences, within 1,000 feet of the site. Table 3.4-3 presents typical noise levels (dBA at 50 feet) that the USEPA has estimated for the main phases of outdoor construction. Given the temporary nature of proposed construction activities, the amount of noise that construction equipment would generate, and the distance to the nearest noise sensitive area, this effect would be considered minor.

Although construction-related noise effects would be small, the following best management practices would be used to reduce these already-limited noise effects:

- Construction would predominately occur during normal weekday business hours; and
- Construction equipment mufflers would be properly maintained and in good working order.

Construction noise is expected to dominate the soundscape for all onsite personnel. Construction personnel, and particularly equipment operators, would don adequate personal hearing protection to limit exposure and ensure compliance with federal health and safety regulations. In addition, since construction noise is the only expected source of noise associated with the GSA site

Table 3.4-3
Noise levels associated with outdoor construction

Construction phase	L_{eq} (dBA)
Ground clearing	84
Excavation, grading	89
Foundations	78
Structural	85
Finishing	89

Source: USEPA, 1971.

alternative, and there are no schools, churches, or hospitals adjacent to the site, no violation of the Fairfax County noise ordinance would be expected.

Negligible long-term increases in the overall noise environment (e.g., L_{eq}, ADNL) can be expected with the implementation of the GSA site alternative. Long-term adverse effects would not be expected to be significant as long-term operational noise levels consistent with typical administrative facilities would remain below local noise ordinance levels. No military training activities, use of weaponry, demolitions, or aircraft operations would occur. Therefore, no changes in the existing noise environment associated with these sources would be expected.

Due to the proximity of I-95 to the GSA site, intermittent car and truck noise should be expected. Tenants would experience brief and transient acoustical events. These events could be loud enough to intermittently interfere with speech outside of the building.

3.4.2.2 Alternative B: Victory Center

Short-term minor and long-term negligible adverse effects to the noise environment would be expected under the Victory Center alternative, similar to those under the GSA site alternative as discussed in Section 3.4.2.1. Effects would not be expected to be significant because no long-term substantial increases in noise levels would be expected from operational activities and noise levels would not violate the City of Alexandria noise ordinance discussed in Section 3.4.1. Due to the proximity of the rail corridors to the north and south of the Victory Center and the police firing range, intermittent rail and small arms noise should be expected. Tenants would experience brief and transient acoustical events. These events could be loud enough to intermittently interfere with speech outside of the building.

3.4.2.3 Alternative C: Mark Center

Short-term minor and long-term negligible adverse effects to the noise environment would be expected under the Mark Center alternative, similar to those under the GSA site alternative as discussed in Section 3.4.2.1. Effects would not be expected to be significant because no long-term substantial increases in noise levels would be expected from operational activities and noise levels would not violate the City of Alexandria noise ordinance discussed in Section 3.4.1. Intermittent car and truck noise from I-395 should be expected. Tenants would experience brief and transient acoustical events. These events could be loud enough to interfere with speech outside of the building.

3.4.2.4 No Action Alternative

The No Action Alternative would result in no effects on the noise environment. No construction, changes in traffic, or changes in operations would occur. Noise conditions would remain as described in Section 3.4.1.

3.4.3 BMPs/ Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures for noise would be required with the implementation of the proposed action.

3.5 GEOLOGY AND SOILS

3.5.1 Affected Environment

3.5.1.1 GSA Site

The topography of the GSA site is very flat, gradually sloping from approximately 240 feet above mean sea level (msl) at the western boundary to about 200 feet above msl at the eastern boundary (Woodward-Clyde, 1989; Fairfax County, 2002).

The GSA site is in the Coastal Plain physiographic province, which consists of unconsolidated sand, silt, and clay underlain by residual soil and weathered crystalline rocks in the Potomac Formation (ATC, 2005).

As a result of the considerable impervious surface cover on the GSA site, there are practically no exposed soils. The largest exposed surface is a small area along Loisdale Road near the northern entrance to the GSA property. The soils in this portion of the site are classified by the Virginia Department of Agriculture as the Beltsville Unit, which consists of gravel and sands with sandy clay layers. The runoff potential is low and permeability is moderately high in the sandy units. Drilling on the site has uncovered sands and gravels with silt and clay layers, and variable thicknesses and depths of fill soils are found over the site. The eastern portion of the site was covered with about two to four feet of fill to level it out when the warehouses were constructed. Underlying the fill are sediments of the Potomac Formation. The layering of sediments in the site area, including clays and silts, creates a complex hydrogeologic environment (Hill International, 1992). No known hydric soils or prime farmlands occur on the GSA site (USDA NRCS, 2007).

3.5.1.2 Victory Center

The topography of the Victory Center site is very flat, gradually sloping from about 110 feet above msl on the western border of the property to about 70 feet above msl on the eastern border of the property (USGS, 1983).

Due to the geographic proximity of the Victory Center site to the GSA site, the underlying geology is generally similar. Geologic conditions for the GSA site are described in Section 3.5.1.1.

The Victory Center site contains no areas of exposed soils except for landscaping areas and small strips of grass bordering the property. The 16-acre site is dominated by the central building and surface parking. The soils at Victory Center are categorized simply as "urban land." No known hydric soils or prime farmlands occur on the Victory Center site (USDA NRCS, 2007).

3.5.1.3 Mark Center

The topography of the Mark Center site is relatively flat with a moderate to steep slope along the western border and a moderate slope along the southern border, where a ravine for an unnamed tributary to Holmes Run occurs. Forested or grassy conditions on the 24-acre site generally keep soils stabilized and reduce erosion to nearby tributaries.

Because of the geographic proximity of the Mark Center site to the GSA site and Victory Center, the underlying geology is generally similar. Geologic conditions for the GSA site are described in Section 3.5.1.1.

About 40 percent of the Mark Center BRAC 133 footprint is classified as urban land with little to no exposed soils. The remaining portions of the site consist primarily of sandy loams intermixed with small amounts of clay, silt and organic material, primarily of the Lunt-Hilly soil association. The soil is characterized as having moderate infiltration rates with some water holding capacity (ATC, 2005). No known hydric soils or prime farmlands occur on the Mark Center site (USDA NRCS, 2007).

3.5.2 Environmental Consequences

3.5.2.1 Alternative A: GSA Site

The GSA site alternative would have short-term minor adverse effects on soils. Development of the BRAC 133 complex on the GSA site may cause minor soil erosion issues during the demolition and construction activities on the site, when the exposed soil surfaces are disturbed and impervious surfaces are removed. These issues would be minimized by the use of BMPs and development of a site-specific sediment and erosion control plan. No effects to geology and soils would be anticipated on the GSA site after the demolition and construction activities are complete. Soil stabilization techniques including seeding and landscaping would be implemented to negate soil movement.

3.5.2.2 Alternative B: Victory Center

The Victory Center alternative would have short-term minor adverse effects on soils. Development of the BRAC 133 complex on the Victory Center site may cause minor soil erosion issues during the renovation and construction activities on the site, when the exposed soil surfaces are disturbed and impervious surfaces are removed. These effects would be slightly greater than at the GSA site due to the close proximity of Chesapeake Bay Resource Protection Areas (RPAs; see Section 3.6) and wetlands (Section 3.7). These issues would be minimized by the use of BMPs and development of a site-specific sediment and erosion control plan. No effects to geology and soils would be anticipated at the Victory Center site following the renovation and construction activities. Soil stabilization techniques including seeding and landscaping would be implemented to negate soil movement.

3.5.2.3 Alternative C: Mark Center

The Mark Center alternative would have short- and long-term minor adverse effects on soils. However, adverse effects would not be significant as adherence to state erosion control guidelines and the use of BMPs and existing downstream storm water and sediment control facilities would occur. Development of the Mark Center site may cause minor soil erosion issues during renovation and construction activities on the site, when the exposed soil surfaces are disturbed.

These effects would be similar to those at the GSA site due to the comparable proximity of RPAs and wetlands. Following the renovation and construction activities, erosion downstream would be expected to increase due to the increased impervious surfaces. These issues would be minimized by the use of BMPs and development of a site-specific sediment and erosion control plan. Soil stabilization techniques including seeding and landscaping would be implemented to negate soil movement.

3.5.2.4 No Action Alternative

Implementing the No Action Alternative would be expected to have no effects on geology and soils.

3.5.3 BMPs/Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures for geology and soils would be required with the implementation of the proposed action.

3.6 WATER RESOURCES

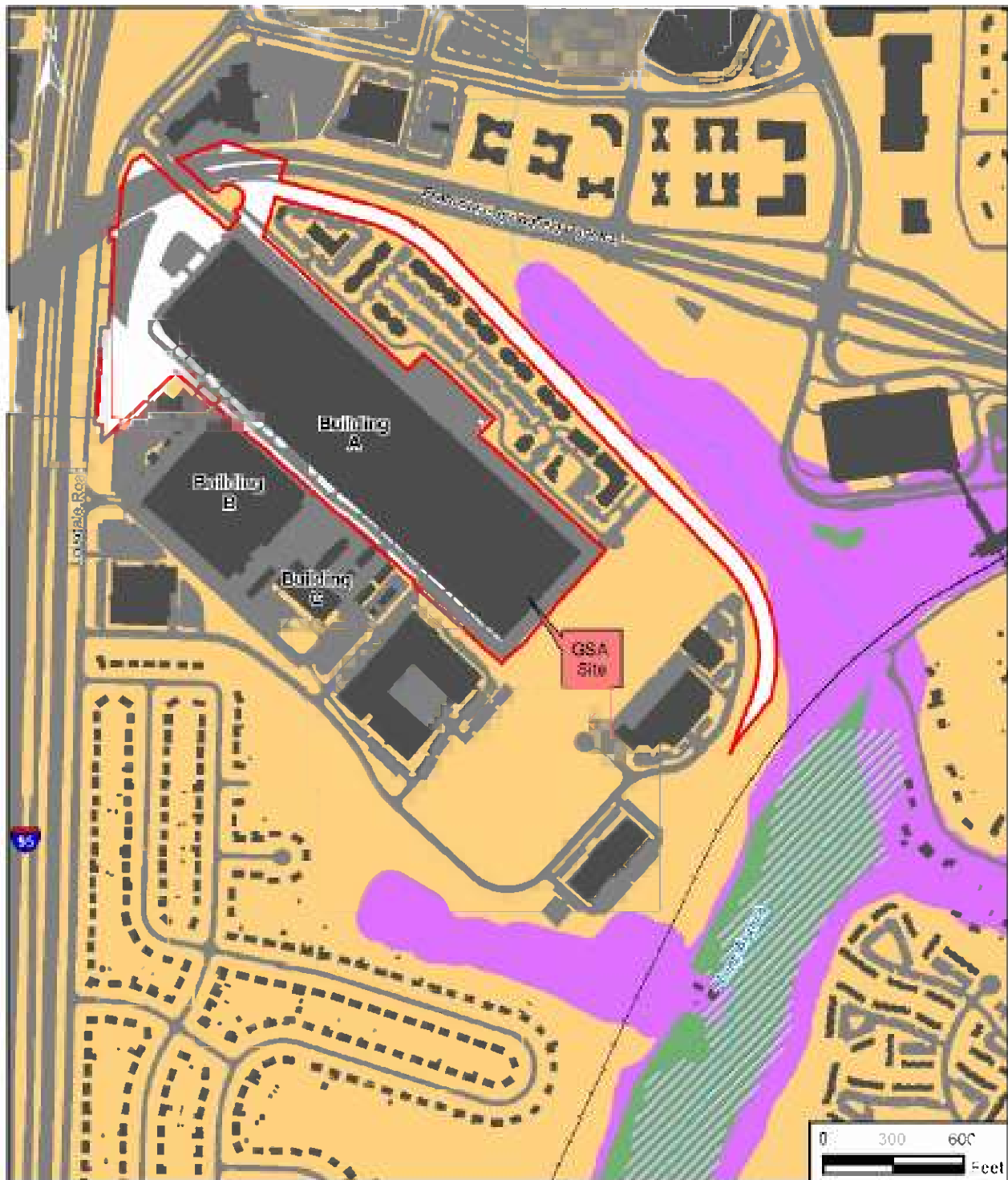
3.6.1 Affected Environment

3.6.1.1 GSA Site

Surface Water. The GSA site lies entirely within the Accotink Creek watershed in Fairfax County, a highly developed suburban watershed (see also Section 3.1, Land Use). The GSA property is a heavily developed industrial/commercial site and is almost entirely covered with impervious surfaces. The generally level site does not contain any surface water resources onsite. The property slopes very slightly downward toward the southeast between about 240 feet and 200 feet above msl (Fairfax County, 2002). Runoff drains naturally east and southeast to the Long Branch perennial stream outside the property's eastern boundary, and within whose subwatershed the property lies (see Figure 3-23). Drainage reaching Long Branch flows thereafter south about three miles to Accotink Creek, then southeast along Accotink Creek to the Potomac River, and eventually to the Chesapeake Bay.

Fairfax County Department of Public Works and Environmental Services (DPWES) and VDEQ water quality assessments (Fairfax County DPWES, 2001, 2006; VDEQ, 2006) have concluded that the Accotink Creek watershed reflects degraded conditions characteristic of the effects of a highly suburbanized area. These studies included data sampled on Long Branch almost three miles south of the GSA site, close to its mouth at Accotink Creek, and on Accotink Creek downstream of Long Branch. The portion of Accotink Creek downstream from Long Branch and the GSA site is part of the 8.62-mile segment VAN-A15R_ACO01A00, listed as impaired for aquatic life use and recreational contact (fecal coliform bacteria exceedance) on Virginia's 2004 Clean Water Act (CWA) Section 303(d) list of impaired waters (VDEQ, 2006). No National Pollutant Discharge Elimination System (NPDES) or Virginia Pollutant Discharge Elimination System (VPDES) permitted discharges are reported on or adjacent to the GSA property (USEPA, 2007c; VDEQ 2007b).

Hydrogeology/Groundwater. Groundwater at the GSA site generally flows east into Long Branch. Water levels range from a depth of 2 feet below the surface at the western side down to 25 feet below the surface in the east (Apex Environmental, 1994). Although a groundwater aquifer underlying the site is unconfined and relatively homogenous, the abundance of clay layers



LEGEND

- Proposed GSA Site BRAC 133 Footprint
- 100-year Floodplain
- Resource Protection Area
- Wetland

Source: Fairfax County GIS, 2006; FEMA, 1990; NWI, 2007.

GSA Site Natural Resources

Figure 3-23



LEGEND

- Victory Center Site Boundary
- 100-year Floodplain
- Resource Protection Area
- Wetland

Source: City of Alexandria GIS, 2007; FEMA, 1991; Eisenhower Real Estate Holdings, 2007.

Victory Center Natural Resources

Figure 3-24

underlying the site causes the groundwater to primarily move laterally and limits vertical movement (ICF Kaiser, 1989). There are no groundwater wells on the GSA property that tap a deep aquifer under the site. Because the property is almost entirely covered by impervious surfaces, little if any replenishment of groundwater resources occurs via infiltration on the GSA property.

Floodplains and Coastal Zone. No Federal Emergency Management Agency (FEMA) 100-year floodplains occur on the GSA property. A FEMA-designated 100-year floodplain begins about 0.2 mile east of the 48-acre GSA parcel, just outside the southeastern tip of the abandoned GSA railroad ROW, and continues south along Long Branch away from the GSA site (see Figure 3-23) (FEMA, 1990). A Chesapeake Bay Resource Protection Area (RPA) has been designated along a small Long Branch tributary northeast of the property (Fairfax County, 2005), adjacent to and roughly following outside the eastern boundary of the GSA railroad ROW, but no RPAs overlap the site footprint (Figure 3-23). RPAs are environmentally sensitive corridors alongside streams, rivers, and other waterways, that act as natural buffers to protect water quality by filtering pollutants out of storm water runoff, reducing the volume and velocity of storm water runoff, and inhibiting erosion. Under requirements of Virginia's Chesapeake Bay Preservation Act, Fairfax County and the City of Alexandria have established RPAs that include 100-foot buffer zones and contiguous wetlands along perennial streams and other waterways. As shown in Figure 3-23, the aforementioned RPA alongside the tributary to Long Branch continues south from its confluence with Long Branch, continuing along Long Branch to the south, away from the GSA property (Fairfax County, 2005). Information about CZMA compliance is provided in Section 3.1.1.5 and Appendix C.

3.6.1.2 Victory Center

Surface Water. Victory Center is in the highly urbanized Cameron Run watershed, which begins in eastern Fairfax County and includes portions of the cities of Falls Church and Alexandria. The property is entirely within the Backlick Run subwatershed of Cameron Run and does not contain any surface water resources onsite. It is almost entirely developed and covered with impervious surfaces. The generally level property slopes gently from about 110 feet above msl in the southwest to about 70 feet above msl in the northeast. Runoff from the property currently drains toward Backlick Run stream, which flows eastward outside the northern boundary of the site (Figure 3-24), along the Norfolk Southern railroad alignment, and Backlick Run's small unnamed tributaries north and east of the property (WEG, 2005). Part of the eastern unnamed tributary has been piped underground below pavement and buildings on an adjacent developed parcel. Backlick Run merges with Holmes Run about one mile east-northeast of Victory Center to form Cameron Run. Cameron Run continues east for about another three miles to Hunting Creek, which flows to the Potomac River. The lower portion of Backlick Run, where the stream is closest to Victory Center, is channelized and maintained for flood control and storm water management by the City of Alexandria. This portion of Backlick Run was first channelized as early as 1850, possibly in conjunction with the construction at that time of early railroads from the Potomac River waterfront up the valley of Hunting Creek, Cameron Run, and Backlick Run (City of Alexandria, 2001). Lower Backlick Run near Victory Center is part of the 6.5-mile segment VAN-A13R_BL01A00 listed as impaired for recreational contact (fecal coliform bacteria exceedance) on Virginia's 2004 CWA Section 303(d) list of impaired waters (VDEQ, 2006). No NPDES or VPDES permitted discharges are reported on or adjacent to the Victory Center (USEPA, 2007c; VDEQ 2007b).

Hydrogeology/Groundwater. Victory Center is in the Coastal Plain physiographic province, characteristically underlain by unconsolidated sediments (gravel, sand, silt, and clay).

Groundwater in Alexandria's aquifer was found in a 1985 analysis to be of generally suitable quality for domestic, commercial, and industrial purposes (City of Alexandria, 2001). For its municipal water supply, however, Alexandria relies on surface water withdrawals outside the City's boundaries (City of Alexandria, 2001). There are no groundwater wells on the Victory Center property. Victory Center is within one of the city's two regional potential groundwater recharge areas identified for consideration during development and redevelopment processes (City of Alexandria, 2001). Because the property is almost entirely covered by impervious surfaces, little if any replenishment of groundwater resources occurs via infiltration under existing conditions. Redevelopment of the property may be subject to the city's Chesapeake Bay Preservation Ordinance provision to meet performance criteria by reducing existing impervious surface cover (City of Alexandria, 2001).

Floodplains and Coastal Zone. FEMA-designated 100-year floodplain and Chesapeake Bay RPAs exist near Victory Center along Backlick Run to the north and its unnamed tributary to the east and southeast, (FEMA, 1991; City of Alexandria, 2004; Fairfax County, 2005), but no floodplains are present within the Victory Center site footprint (Jones Lang LaSalle, 2008). Figure 3-24 shows the floodplain and RPAs near the site. The channelization of lower Backlick Run is designed to contain the 100-year flood without spillover, and city storm water management ordinances are aimed at preventing any decrease in carrying capacity of the channel (City of Alexandria, 2001). City of Alexandria RPAs to the north, east, and southeast of Victory Center (City of Alexandria, 2004) are natural continuations of Fairfax County RPAs (Fairfax County, 2005) along streams that begin in Fairfax County and flow eastward and northward across jurisdictional boundaries from the county into the city. All but a small portion of these nearby RPAs are outside the Victory Center footprint. Less than 0.2 acre of the Backlick Run RPA north of Victory Center and the small tributary's RPA at the east end of the property overlaps the Center's existing footprint, and of this area, about 0.05 acre consists of existing impervious surface (curb & gutter and asphalt pavement; WEG, 2005). The significance of RPAs for protecting water quality is described in Section 3.6.1.1. Information about CZMA compliance is provided in Section 3.1.1.5 and Appendix C.

3.6.1.3 **Mark Center**

Surface Water. Mark Center, like Victory Center, is in the highly urbanized Cameron Run watershed, which begins in eastern Fairfax County and includes portions of the cities of Falls Church and Alexandria. The site is entirely within the Holmes Run subwatershed of Cameron Run and lies at the headwaters of two unnamed tributaries that are west of and south of the Mark Center site, respectively. The stream to the west is not on the Mark Center site proposed for BRAC 133, and the stream to the south generally follows the border between the Mark Center site and VDOT ROW along I-395. The Mark Center site is on a generally flat plateau, and surface water runoff from the site drains to the west or south into the drainage swales for either of the two small unnamed streams. Both streams flow generally southwest, and each drains into the same constructed storm water and water quality management pond on the Winkler Botanical Preserve property adjacent to the Mark Center site (Figure 3-25). This constructed pond is referred to as Winkler Run Pond on development documents (Duke Realty, 2008). The stream along the southern boundary of the site has been channelized for storm water management and directs runoff from the eastern portion of the Mark Center site and from I-395 through a series of constructed linear ponds ("bays") with weirs, and ultimately into Winkler Run Pond (Duke Realty, 2008). Concrete channelization of this drainage ends above the uppermost bay in the VDOT ROW adjacent to and south of the Mark Center site. During site visits conducted on January 24 and February 14, 2008, accumulated runoff debris was observed at the end of the paved channel and impinging on the remains of what appeared to be a boundary fence for the



LEGEND

- Mark Center Site Boundary
- Resource Protection Area
- Water
- Winkler Botanical Preserve

Source: City of Alexandria GIS, 2007.

Mark Center Natural Resources

Figure 3-25

Winkler Botanical Preserve. Staff of the Preserve reported that episodic storm water flooding occurs regularly, during which time the island in Winkler Run Pond that houses its overflow drain is completely submerged (Smolik, 2008). The Winkler Run Pond's outflow stream continues below the pond for about another 3/4 mile, to where it flows into Holmes Run (City of Alexandria, 2004b). This portion of Holmes Run is part of the 3.6-mile segment VAN-A13R-02 listed as impaired for recreational contact (fecal coliform bacteria exceedance) on Virginia's 2004 CWA Section 303(d) list of impaired waters (VDEQ, 2006). The impaired segment on Holmes Run begins at its outflow from the Lake Barcroft dam (upstream of the confluence of the Winkler Run Pond outflow stream with Holmes Run) and continues along Holmes Run downstream to its confluence with Backlick Run. No NPDES or VPDES permitted discharges are reported on or adjacent to the Mark Center site (USEPA, 2007c; VDEQ 2007b).

Hydrogeology/Groundwater. Because of the geographic proximity of the Mark Center site to the Victory Center site, the underlying hydrogeology is generally similar. There are no groundwater wells on the proposed development site (Duke Realty, 2008).

Floodplains and Coastal Zone. The Mark Center site contains no FEMA-designated 100-year floodplain areas (FEMA, 1991; Duke Realty, 2008). Chesapeake Bay RPAs are designated along the previously-described unnamed streams that lie to the west and south of the Mark Center site (City of Alexandria, 2004b). The RPA along the stream to the west of the Mark Center site does not extend into the site footprint. About 1.4 acres of the RPA for the stream to the south overlaps the footprint of the Mark Center site (Figure 3-25). The significance of RPAs for protecting water quality is described in Section 3.6.1.1. Information about CZMA compliance is provided in Section 3.1.1.5 and Appendix C.

3.6.2 Environmental Consequences

3.6.2.1 Alternative A: GSA Site

Short-term minor adverse effects and long-term minor beneficial effects to water resources would be expected. Short-term adverse effects due to increased sediment in runoff could occur during land disturbance activities associated with demolition and construction activities and redevelopment of the site. Such effects would be minimized by the use of construction-specific BMPs and development of site-specific plans for sediment and erosion control and storm water runoff during demolition and construction activities. During and following such activities, the Army would comply with all federal, state, local, and Army requirements to reduce the effects of land disturbance activities on nearby water resources and minimize potential detrimental effects through effective storm water planning. Preparation of a site-specific storm water pollution prevention plan (SWPPP) and compliance with Fort Belvoir's existing municipal separate storm sewer system (MS4) permit would be required for the proposed BRAC 133 complex on the GSA site.

In the long term, water quality degradation as a result of development largely results from direct and indirect effects of increased impervious surfaces. Increased impervious surface area can result in increased runoff (in the forms of increased volume, velocity, and peak flows), increased erosion, increased pollutant loads (e.g., dissolved solids, petroleum hydrocarbons, or excess nutrients) and sediment loads, and reduced ground absorption and infiltration of runoff that would otherwise recharge groundwater aquifers or seeps. Storm water and water quality modeling conducted for the Fort Belvoir BRAC EIS indicated that locating BRAC 133 projects at the GSA site would result in 0 percent change in peak storm water discharge (1, 2, 5, 10, 25, 50 and 100-year storm events), and 0 or -1 percent changes in total phosphorus or total nitrogen loading,

respectively, from baseline to future condition (USACE, 2007a). Transfer of the GSA site to the Army and development of the site would subject the property to requirements under Fort Belvoir's existing MS4 storm water discharge permit, which requires that the installation's storm drainage design comply with Fairfax County storm water management criteria. County criteria include quality and quantity controls on surface runoff that would necessitate such redevelopment design features as onsite storm water storage, green roofs, bioretention, vegetated swales, or other storm water control elements. Given the existing highly paved and developed condition of the GSA site, redevelopment with any amount of landscaping or green space would be expected to produce a runoff rate less than the current rate (BNVP, 2007). Such reduction in impervious surface cover and reduced runoff rate would be expected to have long-term beneficial effects over the current condition.

As referenced from Sections 3.1.1.5 and 3.1.2.1, the coastal zone management consistency determination for the proposed action is provided in Appendix C.

3.6.2.2 *Alternative B: Victory Center*

Short-term minor adverse effects and long-term minor beneficial effects to water resources would be expected as a result of redevelopment of Victory Center, and no effects would be expected as a result of relocation of BRAC 133 to the property. Short-term adverse effects due to increased sediment in runoff could occur during land disturbance activities associated with construction and demolition activities and redevelopment of the site. Such effects would be expected to be minimized by the developer by the use of construction-specific BMPs and site-specific plans for sediment and erosion control and storm water runoff during construction (Jones Lang LaSalle, 2008). Water quality degradation as a result of development largely results from direct and indirect effects of increased impervious land cover, as described in Section 3.6.2.1. According to a proposed site design, about 0.09 acre (3,985 square feet) of the RPA would be disturbed, of which 0.01 acre would become permanent impervious surface (WEG, 2005). Rather than increased impervious cover, proposed redevelopment plans call for an overall reduction in impervious cover from the existing 86 percent of the site to 63 percent, reduction of impervious cover within the onsite RPA from the existing 0.05 acre to 0.01 acre, and installation of storm water runoff BMPs to treat runoff before it is discharged offsite into nearby Backlick Run and unnamed tributaries, thus reducing pollutant loading to these streams (Jones Lang LaSalle, 2008; WEG, 2005). Because Alexandria relies on surface water withdrawals outside its boundaries for its municipal water supply (City of Alexandria, 2001), the lack of groundwater recharge due to high impervious surface coverage on the Victory Center site would not be detrimental to the City's potable water supply. All new development is required to be connected to the municipal water system rather than relying on groundwater withdrawals (City of Alexandria, 2001). Should the Army acquire the property, preparation of a site-specific SWPPP and site compliance with Fort Belvoir's existing MS4 permit would be required. Relocation of BRAC 133 to the redeveloped property and operational activities at the BRAC 133 complex would be expected to have no further impacts on water resources.

As referenced from Sections 3.1.1.5 and 3.1.2.2, the coastal zone management consistency determination for the proposed action is provided in Appendix C.

3.6.2.3 *Alternative C: Mark Center*

Short- and long-term minor but not significant adverse effects to water resources would be expected as a result of development of the Mark Center site, and no effects would be expected as a result of relocation of BRAC 133 to the property. Effects would not be expected to be

significantly adverse because of the use of BMPs and storm water pollution prevention planning and adherence to state erosion control guidelines, as described in the following paragraph and in Section 3.5.2. Such practices would be expected to result in no violations of water quality standards and no substantial detrimental effect on downstream biological resources (see Section 3.7.2).

Short-term adverse effects due to increased sediment in runoff would occur during land disturbance activities associated with construction and development of the site. Sediment accumulation in Winkler Run Pond and its feeder streams under current conditions is considered by staff of the Winkler Botanical Preserve to be of concern (Smolik, 2008). Additional adverse short-term effects would be expected to be minimized by the developer by the use of construction-specific BMPs and site-specific plans for sediment and erosion control and storm water runoff during construction. Water quality degradation as a result of development largely results from direct and indirect effects of increased impervious land cover, as described in Section 3.6.2.1. Development of additional office buildings and parking structures at Mark Center, where there is currently forested land, would increase impervious cover on the site in the long-term, with resulting increases in runoff volume and associated pollutant loads. However, under the current approved Preliminary Development Plan for BRAC 133 at Mark Center, the pond design for the Winkler Run Pond would provide adequate quantity and quality measures for the proposed action (Duke Realty, 2008), such that effects from this additional development would not be expected to be significantly adverse. Should the Army acquire the property, preparation of a site-specific SWPPP and site compliance with Fort Belvoir's existing MS4 permit would be required. Relocation of BRAC 133 to the redeveloped property and operational activities at the BRAC 133 complex would be expected to have no further impacts on water resources.

As referenced from Sections 3.1.1.5 and 3.1.2.3, the coastal zone management consistency determination for the proposed action is provided in Appendix C.

3.6.2.4 No Action Alternative

No effect on water resources would be expected under the No Action Alternative.

3.6.3 BMPs/Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures for water resources would be required with the implementation of the proposed action.

3.7 BIOLOGICAL RESOURCES

3.7.1 Affected Environment

3.7.1.1 GSA Site

Vegetation. Vegetation on the GSA site is nearly absent except for the occasional landscaping features, most notably in the northeast corner of the site where a few trees are present, and the presence of natural vegetative communities along the GSA abandoned railroad ROW (USACE, 2007a).

Wildlife. The GSA site does not support natural wildlife habitats (USACE, 2007a), apart from common upland small animals such as raccoons (*Procyon lotor*), skunks (*Tamias striatus*), gray squirrels (*Sciurus carolinensis*), Virginia opossums (*Didelphis marsupialis*), chipmunks (*Tamias*

striatus), and white-tailed deer (*Odocoileus virginianus*), which can be found primarily along the GSA railroad ROW.

Sensitive Species. The Endangered Species Act (ESA) (16 U.S.C. 1532 *et seq.*) of 1973, and as amended, was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All federal agencies are required to implement protection programs for designated species and to use their authorities to further the purposes of the act. Coordination letters with federal and state natural resources agencies regarding the GSA site are included in Appendix B. Neither threatened and endangered species nor their habitats have been identified on the GSA site (USACE, 2007a). Accotink Creek, located about three miles downstream from the GSA site, is designated as an Anadromous Fish Use Area by the Virginia Department of Game and Inland Fisheries (VDGIF). Accotink Creek is also known to support the bridle shiner (*Notropis bifrenatus*), a state special concern species (See agency coordination letter from VDGIF in Appendix B.2).

Wetlands. Wetlands provide for flood flow alteration, sediment and shoreline stabilization, wildlife habitat, recreational opportunities. The preservation of adjoining forested slopes and stream channels are important to the continuation of these wetlands function. There are no wetlands present on the GSA site (Secretary of the Army, 2007). The nearest wetland is roughly 750 feet to the east of the site (see Figure 3-23). This wetland is 7.6 acres and is classified as a palustrine unconsolidated wetland (NWI, 2007).

3.7.1.2 Victory Center

Vegetation. Vegetation on the Victory Center site is nearly absent apart from occasional landscaping features, primarily along the perimeter of the site, as the site is nearly entirely developed, and it supports no natural vegetative communities. The site is bordered on the north by a riparian area.

Wildlife. The Victory Center site does not support natural wildlife habitats, apart from common wildlife species similar to those found on the GSA site.

Sensitive Species. Review of state and federal databases did not identify any threatened and endangered species in the immediate vicinity of the Victory Center site. Coordination letters with federal and state natural resources agencies regarding the Victory Center are included in Appendix B. Cameron Run, located about one mile downstream from Victory Center, is designated as an Anadromous Fish Use Area by VDGIF (see agency coordination letter from VDGIF in Appendix B.2).

Wetlands. There are no wetlands present on the Victory Center site (Secretary of the Army, 2007). There is a nearby wetland that is generally about 80 feet north of and parallel to the northern boundary of the site, except at one point where it is about 15 feet north of the site along a feeder stream (see Figure 3-24) (Eisenhower Real Estate Holdings, 2007). There is also an RPA along the northern boundary of the site (see Section 3.6.1.2).

3.7.1.3 Mark Center

Vegetation. Vegetation on the Mark Center site is common, with about 13 acres of the 24-acre BRAC 133 footprint currently forested with upland hardwood stands or partially forested with landscaped trees. The site is bordered on the north by a riparian area and the west by the 44-acre

Winkler Botanical Preserve, which is primarily forested with upland and riparian hardwood stands.

Wildlife. The Mark Center site supports natural upland forest habitat and groomed forest. The site offers habitat to woodland species such as those identified in Section 3.7.1.1, but no rare, threatened, or endangered plant and animal species have been identified in the immediate vicinity of the site (VDCR, 2008). The Winkler Botanical Preserve to the west of the site contains natural habitat for woodland species.

Sensitive Species. Review of state and federal databases did not identify any threatened and endangered species in the immediate vicinity of the Mark Center site (VDCR, 2008). Coordination letters with federal and state natural resources agencies regarding the Mark Center are included in Appendix B. See Section 3.7.1.2 regarding other sensitive species in the Cameron Run watershed.

Wetlands. There are no wetlands present on the Mark Center site. One small storm water catchment basin in the southeast portion of the site (shown on Figure 3-25 as a waterbody) is currently dry. The nearest permanent water bodies are two manmade ponds 200 feet and 300 feet to the north of the site, and a constructed storm water management pond within the Winkler Botanical Preserve 600 feet to the west.

3.7.2 Environmental Consequences

3.7.2.1 Alternative A: GSA Site

Short- and long-term negligible adverse effects would be expected. Effects would not be expected to be significantly adverse because no permanent loss of a substantial amount of forested areas, wildlife habitat, or wetlands relative to existing conditions in the region and no take of sensitive species would occur. Biological resources (natural vegetation, wildlife, threatened and endangered species, and wetlands) on the GSA site would generally not be affected by the conveyance of property from GSA to the Army and site development due to general lack of resources on the site. The few trees present in the northeast corner of the site would be avoided or their loss offset by the addition of new landscaping features added throughout the site. Natural vegetative communities along the GSA railroad ROW would not be affected by the proposed action because this portion of the property would not be in the construction area for the proposed action. There could be some short-term adverse effects to wildlife in adjacent forested areas due to construction noise, which would be expected to be negligible due to the level of existing development around the site. Long-term negligible adverse effects to wildlife in surrounding areas could also occur due to noise from continued operational and RIF activities similar to existing warehouse traffic and truck deliveries. Onsite BMPs would help protect downstream riparian areas, water quality, and other resources, notably the Accotink Creek, which is designated as an Anadromous Fish Use Area and is known to support the bridle shiner.

3.7.2.2 Alternative B: Victory Center

Short- and long-term negligible adverse effects to biological resources would be expected for the Victory Center alternative. Effects would not be expected to be significantly adverse because no permanent loss of a substantial amount of forested areas, wildlife habitat, or wetlands relative to existing conditions in the region and no take of sensitive species would occur. There could be some short-term adverse effects to wildlife in adjacent forested areas due to construction noise,

which would be expected to be negligible due to the level of existing development around the site. Long-term negligible adverse effects to wildlife in surrounding areas could also occur due to noise from increased operational activities related to traffic and truck deliveries. Natural vegetative communities along the northern border of the site would not be affected by the proposed action. Onsite BMPs would help protect downstream riparian areas, water quality, and other resources, notably Cameron Run, which is designated as an Anadromous Fish Use Area.

3.7.2.3 Alternative C: Mark Center

Short- and long-term minor adverse effects to biological resources would be expected under the Mark Center alternative. Effects would not be expected to be significantly adverse because no permanent loss of a substantial amount of forested areas, wildlife habitat, or wetlands relative to existing conditions in the region and no take of sensitive species would occur. City approved development plans would remove up to 8 acres (or up to 60 percent) of the forested and partially-forested areas within the BRAC 133 footprint, with the central portion of the footprint remaining forested with landscaped trees. There may be some short-term minor adverse effects to wildlife in the adjacent Winkler Botanical Preserve caused by construction noise. Long-term minor adverse effects to wildlife on the site and in surrounding areas would be expected because of loss of habitat due to the planned development and because of noise from increased operational activities related to traffic and truck deliveries. Onsite BMPs would help protect downstream riparian areas, water quality, and other resources, notably Cameron Run, which is designated as an Anadromous Fish Use Area.

3.7.2.4 No Action Alternative

No effect on vegetation, wildlife, threatened or endangered species, or wetlands would be expected under the No Action Alternative.

3.7.3 BMPs/Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures for biological resources would be required with the implementation of the proposed action.

3.8 CULTURAL RESOURCES

The following section describes the affected environment and the environmental consequences of the proposed action for cultural and historic resources. Cultural Resource Management procedures are defined in AR 200-1. Cultural resources consist of historic properties (buildings, structures, districts, landscapes, etc., as defined by AR 200-1 and the National Historic Preservation Act [NHPA]), archaeological sites (as defined and governed by the Archaeological Resources Protection Act [ARPA], and the NHPA), Native American sacred sites (as identified in Executive Order 13007 and the American Indians Religious Freedom Act [AIRFA]), Traditional Cultural Properties ([TCPs] as defined in the NHPA and as described in National Register Bulletin 38), and sites and artifacts associated with Native American Graves (as defined and governed by the Native American Graves Protection and Repatriation Act [NAGPRA]).

3.8.1 Affected Environment

Cultural resources are aspects of the physical environment that relate communities to their culture and history. They provide definition for communities and link them to their surroundings. Cultural resources include tangible remains of past activities that show use or modification by

people. This type of cultural resource can include prehistoric and historic archaeological sites, buildings, structures, objects, or districts. Cultural resources also include aspects of the natural environment, such as landscapes, specific places, topographic features, or biota, which are a part of traditional lifeways and practices and are associated with community values and institutions.

3.8.1.1 GSA Site

The GSA site is an irregularly shaped 48-acre property located southeast of Springfield, Virginia. The site's setting is characterized by suburban development, including strip malls and shopping centers, subdivisions, and hotels.

The GSA site contains four buildings that are greater than 50 years in age: Building A, Building B, Butler Building 1, and Butler Building 7. Buildings A and B were constructed in 1953 and were known as the Parr-Franconia Warehouse. Warehouse Buildings A and B were constructed for lease to GSA and were used for the storage of office furniture and other supplies that GSA had acquired for the post World War II expansion of the federal labor force, particularly in the National Capital Region (NCR). The warehouse property was purchased in 1954 by the Park Avenue Methodist Church of New York, which in turn sold the property to the federal government in 1965. The metal Butler Buildings 1 and 7 were added to the property in 1956, with additional Butler Buildings as well as a prefabricated building added to the site in later years. At present, there are 13 buildings on the GSA site: Warehouse Buildings A and B; Building C, a 1990 prefabricated building; and 10 metal Butler Buildings.

Buildings A and B, Butler Buildings 1 and 7, and the GSA Warehouse Property as a whole were surveyed and evaluated for their National Register of Historic Places (NRHP) eligibility in October 2007 (New South Associates, 2007a). The architectural survey report recommends that none of the buildings on the GSA site are eligible for the NRHP as they are not associated with significant historical events, significant persons, do not embody the distinctive characteristics of a type of construction, and do not contain information important to history or prehistory. Concurrence of these recommendations was received from the State Historic Preservation Officer (SHPO) at the Virginia Department of Historic Resources (VDHR) in December 2007. Appendix B contains the letter sent to the SHPO and the response.

There are no archaeological sites recorded on the GSA site. An archaeological assessment of the property was performed in October 2007 (New South Associates, 2007b). The archaeological assessment report recommended that an intensive archaeological survey of the GSA site was not warranted as construction activities associated with the construction of the warehouse would have destroyed archaeological deposits, if such were present on the site. SHPO review and concurrence of this report has been received and is included in Appendix B as stated above.

No known Native American sacred sites, TCPs, or burials occur on the GSA site. The Army submitted consultation letters to affiliated federally-recognized Native American tribes associated with Fort Belvoir on September 26, 2007 (see Appendix B). These letters outlined the BRAC 133 project and requested that tribal governments reply if they were interested in consulting on the BRAC 133 initiative. No responses were received to these letters.

3.8.1.2 Victory Center

The Victory Center contains one large structure, the Eisenhower Building, which was built in 1973 and is currently being renovated. This building is not more than 50 years of age, nor does it

meet the standards of Criterion G, Exceptional Significance, for properties that are less than 50 years old. Therefore, the Eisenhower Building is not eligible for consideration for the NRHP.

An archaeological assessment of the Victory Center was conducted in November 2006 using soil examinations of the property (Louis Berger, 2006; Geo-Sci Consultants, 2006). Thirty-nine GeoProbe soil borings were placed on the site and revealed that the location had been heavily disturbed by prior construction. The assessment recommended that an archaeological survey of the property was not necessary due to the extent of disturbance. Alexandria Archaeology concurred with this recommendation in December 2006 (Bromberg, 2006).

No known Native American sacred sites, TCPs, or burials occur on the Victory Center site. The SHPO consultation letters mentioned in Section 3.8.1.1 also referenced consideration of the Victory Center alternative for BRAC 133. SHPO review and concurrence of this report has been received and is included in Appendix B as stated in Section 3.8.1.1. No responses were received to the letters to Native American tribes.

3.8.1.3 Mark Center

The BRAC 133 footprint at Mark Center contains two large office buildings. The building at 4825 Mark Center was constructed in 2000, and 4850 Mark Center was built in 2002. Both buildings are hence less than 50 years old and do not qualify for consideration for the NRHP. Representing typical office/institutional architecture of the region, they also do not qualify under Criterion G, Exceptional Significance, for properties that are less than 50 years old. There are no historic properties recorded in the immediate vicinity of the Mark Center site. The nearest recorded historic property is Fort Ward (VDHR site number 100-0113), which is located approximately 0.6 miles to the west.

The Mark Center site is a level terrace top with roads, parking lots, and two office buildings. A Phase I archaeological survey and site assessment (International Archaeological Consultants, 1994) of the undeveloped upland terraces at Mark Center was completed in 1994, prior to the existing construction. This survey and site evaluation examined a 61-acre survey area that included the 24-acre Mark Center BRAC 133 footprint. The survey employed shovel tests placed on a 50-foot grid to identify artifacts and sites. A total of 437 tests were excavated and two sites, both west of the Mark Center BRAC 133 footprint, were defined, a historic site (44AX162) and a small prehistoric site (44AX163). Phase II testing was conducted for both sites, and subsequent Phase III archaeological data recovery was completed on the historic site. Neither site was recommended as eligible for listing on the federal register. The Phase I survey did not identify any archaeological sites on the Mark Center BRAC 133 footprint.

Alexandria Archaeology accepted the report as meeting their standards without further archaeological study for a period of 10 years from completion of the survey fieldwork in August 1991. Because this time period has lapsed, Alexandria Archaeology has since expressed that an updated survey of the Mark Center site would be required prior to any additional new development on the site (Cressey, 1994; 2008).

While there are no eligible sites recorded on the Mark Center BRAC 133 footprint, there are a number of sites located along the Holmes Run stream valley to the west of the Mark Center, including 44AX0006, 44AX0009, 44AX0012, 44AX0013, and 44AX0016. The distribution of sites in the areas as shown in the VDHR Data Sharing System presents a distinct settlement preference for prehistoric camp sites along the margins of stream valleys, with less frequently occurring historic sites on upland terraces and ridges.

There are no known Native American sacred sites, TCPs, or burials on the Mark Center BRAC 133 footprint. Letters to Native American tribes submitted in September 2007 outlined the BRAC 133 project and requested that tribal governments reply if they were interested in consulting on the BRAC 133 initiative. The letters are included in Appendix B. No responses were received to the letters to Native American tribes.

3.8.2 Environmental Consequences

3.8.2.1 Alternative A: GSA Site

Based on the currently available information, use of the 48-acre portion of the GSA site for the BRAC 133 initiative would have no effect on cultural resources, including historic properties, archaeological sites, or Native American sacred sites, TCPs, or burials. The architectural survey of the GSA site recommends that none of the buildings on the site be deemed eligible for the NRHP. Pending the concurrence of the Virginia SHPO with this recommendation, there would be no consequence of the BRAC 133 initiative at the GSA site on historic properties.

The archaeological assessment of the GSA site revealed that the site has been heavily disturbed by construction of the warehouse complex and does not warrant an intensive archaeological survey. Pending the concurrence of the Virginia SHPO with this recommendation, there would be no consequence of the BRAC 133 initiative at the GSA site on archaeological sites.

No TCPs, Native American sacred sites, or burials are known to exist on or near the GSA site. The potential for effects on unknown cultural and historical resources is always present, but adherence to policies and guidelines in Army regulations and consultation with the SHPO would be conducted as necessary to avoid potential adverse effects.

The GSA site is located in a suburban environment characterized by shopping centers and subdivisions. No NRHP listed historic properties or districts are within view of the site, and there would be no consequence of the BRAC 133 initiative at the GSA site on cultural landscapes or NRHP property viewsheds.

Potential enhancements to the GSA site may require cultural resource study. The Fit Test completed for the GSA site recommends the creation of roads and/or trails connecting the GSA site to Frontier Road and the Franconia-Springfield Metro station (BNVP, 2007). Should such enhancements be selected, Phase I archaeological surveys may be required to determine if any currently unknown archaeological sites exist in these proposed alignments. These corridors are outside the demolition and construction footprint for BRAC 133 and are not part of this proposed action.

3.8.2.2 Alternative B: Victory Center

Use of the Victory Center for the BRAC 133 initiative would have no effect on cultural resources, including historic properties, archaeological sites, or Native American sacred sites, TCPs, or burials. The only building present on the site is the Eisenhower Building, which was constructed in 1973 and is not eligible for consideration for the NRHP.

An archaeological assessment of the Victory Center site revealed that the property had been heavily disturbed by prior construction and had no potential to contain intact archaeological sites. No TCPs, Native American sacred sites, or burials are known to exist on or near the Victory Center site. Should any sites be discovered during construction activities, adherence to policies

and guidelines and consultation with the SHPO would be conducted as necessary to avoid potential adverse effects. The Victory Center is located on a commercial corridor paralleling I-495 on the southern edge of Alexandria. No NRHP listed historic properties or districts are within view of the site, and no consequence of the BRAC 133 initiative to use the existing Eisenhower Building at Victory Center on cultural landscapes or NRHP property viewsheds would be expected.

3.8.2.3 Alternative C: Mark Center

Use of the Mark Center for the BRAC 133 initiative would have no effect on currently recorded cultural resources, including historic properties, archaeological sites, and Native American sacred sites, TCPs, or burials, pending review and verification by Alexandria Archaeology and the Virginia SHPO. An archaeological survey of the Mark Center using shovel test survey techniques and intervals consistent with those required by the Virginia SHPO in 1994 did not discover any eligible prehistoric or historic sites on the Mark Center BRAC 133 footprint. Should BRAC 133 proceed with the Mark Center alternative, the 1994 Phase I survey report or its update (which would likely be performed by the current owner of the Mark Center property) would require review and acceptance by the Virginia SHPO as this would be a federal undertaking. The only buildings present on the Mark Center BRAC 133 footprint were constructed in 2000 and 2002 and are not eligible for consideration for the NRHP. There are no NRHP listed historic properties or districts within view of the site and there would be no adverse effects on cultural landscapes or NRHP property viewsheds.

No TCPs, Native American sacred sites, or burials are known to exist on or near the Mark Center footprint. Notification letters were submitted to the affiliated federal tribes requesting their interest in consultation on the BRAC 133 project. No responses were received.

3.8.2.4 No Action Alternative

The No Action Alternative would result in no effects to cultural resources. There would be no demolition or renovation of buildings and no construction activities associated with BRAC 133. As such, no effects would occur to historic properties.

3.8.3 BMPs/Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures for cultural resources would be required with the implementation of the proposed action.

3.9 SOCIOECONOMICS

3.9.1 Affected Environment

3.9.1.1 GSA Site

This section is a description of the socioeconomic conditions of the region of influence (ROI) for the proposed action. The geographic area in which the predominant economic and social effects of the project alternatives would occur defines the ROI for this study. The major factors used to determine the ROI are the residency distribution of BRAC 133 employees and the BRAC 133 relocation site. On the basis of these criteria, the socioeconomic ROI is composed of the following cities and counties: Alexandria City, Arlington County, Fairfax County (including the

cities of Fairfax and Falls Church), and Prince William County (including the cities of Manassas and Manassas Park), Virginia and Prince George's County, Maryland.

The baseline year for socioeconomic data is 2005, the date of the BRAC Commission's announcement, and the most recent year for which data were available. Where 2005 data are not available, the most recent data available are presented.

3.9.1.1.1 Economic Development

Industry and Employment. The ROI civilian labor force was about 1,464,000, with about 1,418,300 people employed and 45,700 unemployed. The ROI unemployment rate was 3.1 percent, up from 2.3 percent in 2000, reflecting the national trend of rising unemployment rates. During the same time period, the United States unemployment rate increased from 4.0 to 5.1 percent (BLS, 2007).

The primary sources of employment in the ROI are the government, professional and technical services, retail trade, and administrative services. These four industries accounted for about 50 percent of regional employment. The government is the core of the region and accounted for 18 percent of total regional employment. Within the government sector, federal civilian jobs accounted for 37 percent of employment, military jobs accounted for 13 percent, and state and local government jobs accounted for 50 percent (BEA, 2007a).

Income. The ROI had a per capita personal income (PCPI) of \$48,520 in 2005. This PCPI was 141 percent of the national average PCPI of \$34,471 (BEA 2007b). The ROI's median household income was \$80,433, 174 percent of the national median household income of \$46,242 (U.S. Census Bureau, 2005).

Population. The ROI's 2005 population was about 2.6 million, an increase of 9 percent from the 2000 population of about 2.4 million (MWCOG, 2006). For comparison, the population of the United States grew 2.5 percent between 2000 and 2005. Most of the ROI growth may be attributed to a substantial expansion of the Washington, DC, regional economy and a large in-migration of a commuter force. The ROI's population is forecast to increase to about 2.8 million by 2010, which would be an 8 percent increase from 2005 (MWCOG, 2006).

Housing. The ROI is characterized by high housing costs and low vacancy rates. There were about 987,800 housing units in the ROI in 2005. About 932,850 (94 percent) were occupied and 6 percent were vacant. For comparison, at the national level 89 percent of the housing units were occupied and 11 percent were vacant. The median value of owner-occupied housing units was \$490,700 which is notably higher than the national median value of \$167,500. Median rent in the ROI was about \$1,180, also much higher than the national median rent of about \$730. The number of housing units in the ROI increased by about 8% (about 73,250 units) between 2000 and 2005 (U.S. Census Bureau, 2000; 2005).

3.9.1.1.2 Quality of Life

Law Enforcement, Fire Protection, and Medical Services. City, county, and state police departments provide law enforcement in the ROI. The ROI has more than 12,000 law enforcement employees (about 9,000 officers and 3,000 civilians) (DOJ-FBI, 2006). Fire protection in the ROI is provided by about 50 career or volunteer fire departments with about 300 fire stations (NFPA, 2005; USFA, 2006). The closest station to the GSA site is Fairfax County Fire Department's Springfield Station 422 (Fairfax County Fire and Rescue, 2007). The GSA site is also in a jurisdiction that is part of the Northern Virginia Emergency Services Mutual Response

Agreement. This memorandum of agreement among Northern Virginia jurisdictions including Arlington County, City of Alexandria, City of Fairfax, Fairfax County, Fort Belvoir, Metropolitan Washington Airports Authority, and Loudoun County is for these agencies to provide automatic mutual response of fire, rescue, and emergency services (Northern Virginia Emergency Services, no date).

Numerous medical facilities are found in the ROI, including hospitals, medical centers, urgent care centers, and special care facilities such as hospices and mental health institutes. Virtually all modern medical services are available in the ROI. The hospital nearest the GSA site is Inova Mount Vernon Hospital, Inova Alexandria Hospital, and DeWitt Army Community Hospital on Fort Belvoir. A new larger Army Community Hospital is under construction at Fort Belvoir.

Schools. The U.S. Department of Education provides federal impact aid to school districts with federal lands within their jurisdiction as authorized under Public Law 103-282. The mission of the Federal Impact Aid program is to disburse Impact Aid payments to local educational agencies that are financially burdened by federal activities. The program supports local school districts with concentrations of children who reside on Indian lands, military bases, low-rent housing properties, and other federal properties, or who have parents in the uniformed services or employed on eligible federal properties. The federal government acts as the local taxpayer by funding the Federal Impact Aid program for local school districts. Total federal impact aid varies year by year according to congressional appropriations for the program. In FY 2004 federal impact aid ranged from \$450 to \$2,200 per student (DoD, 2005).

Children of BRAC 133 employees attend the school district for the area in which they live. The following public school districts serve the ROI: Alexandria City School District, Arlington County Public Schools, Fairfax County Public Schools, Falls Church City Public Schools, Manassas City Public Schools, Manassas Park City Public Schools, Prince William County Public Schools, and Prince George's County Public Schools. Together these school districts have about 550 schools with a total enrollment of almost 406,000 students. The median student-to-teacher ratio was 13:1, lower than the U.S. average of 16:1 (NCES, 2005).

Services, Shops, and Recreation. The ROI also has an abundance of shops, restaurants, services (e.g., banks, gas stations and auto repair shops, dry cleaners, travel agencies) and recreational facilities (e.g., athletic fields, parks, movie theaters, historic sites, and music and theatrical venues). The Springfield Mall, a number of shopping plazas, and the Franconia-Springfield Metro station are less than a mile from the GSA site.

3.9.1.1.3 Environmental Justice

Environmental justice addresses race, ethnicity, and the poverty status of populations within the ROI. On February 11, 1994, President Clinton issued Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The order is designed to focus the attention of federal agencies on the human health and environmental conditions in minority and low-income communities. Environmental justice analyses are performed to identify potential disproportionately high and adverse effects from proposed actions and to identify alternatives that might mitigate any adverse effects.

To identify persons addressed in environmental-justice analyses, data was collected on minority and low-income populations for Census block groups in the ROI. Block groups are subdivisions of a census tract and represent the level at which any potential disproportionate impacts would be

most noticeable. Table 3.9-1 lists the block groups that correspond to the GSA site alternative and the block groups that are contiguous with the boundaries of the site.

Minority populations should be identified for environmental justice analyses where either the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (CEQ, 1997). The latter guidance was used for this analysis, identifying Census block groups with minority or low-income population percentages exceeding the state levels, which has a lower threshold than the 50 percent threshold (the percentage of minority populations in the state is 30 percent, and the percentage of persons below poverty level is 9.6 percent). Table 3.9-1 lists minority-population and low-income statistics for these block groups and for Virginia.

Of the 14 block groups identified for the GSA site, 13 of them had a higher percentage of minority residents compared to the state, and one of the block groups had a higher percentage of low-income residents compared to Virginia.

3.9.1.1.4 Protection of Children

On April 17, 1997, President Clinton issued EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of Army policies, programs, activities, and standards. The EO recognizes a growing body of scientific knowledge that demonstrates that children might suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; children eat, drink, and breathe more in proportion to their body weight; their size and weight may diminish protection from standard safety features; and their behavior patterns might make them more susceptible to accidents. On the basis of these factors, President Clinton directed each federal agency to make it a high priority to identify and assess environmental health risks and safety risks that could disproportionately affect children. President

Table 3.9-1
Minority or low-income population—GSA site alternative

Corresponding land area	Minority		Low-income	
	Census tract-block group	Percent minority	Census tract-block group	Percent below poverty level
GSA	4201-1	54%	4201-1	5.7%
GSA	4201-2	44%	4201-2	3.0%
GSA	4210-1	39%	4210-1	3.5%
GSA	4210-2	47%	4210-2	6.9%
GSA	4210-3	29%	4210-3	3.8%
GSA	4210-4	47%	4210-4	2.6%
GSA	4211-1	52%	4211-1	2.8%
GSA	4211-2	38%	4211-2	0.4%
GSA	4211-3	37%	4211-3	0.0%
GSA	4306-3	79%	4306-3	13.3%
GSA	4306-4	47%	4306-4	0.9%
GSA	4316-1	42%	4316-1	4.9%
GSA	4316-2	68%	4316-2	8.9%
GSA	4328-1	40%	4328-1	5.1%
Virginia	Virginia	30%	Virginia	9.6%

Source: U.S. Census Bureau, 2000.

Clinton also directed each federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

The GSA site is fenced and bordered by roads. To the north and east of the GSA site there are residential land uses consisting of townhouse and apartment style homes. There are no day care centers, schools, or churches adjacent to the GSA site.

3.9.1.2 Victory Center

3.9.1.2.1 Economic Development

The Victory Center is in the City of Alexandria, Virginia. The economics of the region (employment, income, population, and housing) for the Victory Center site is the same as that described above for the GSA site in Section 3.9.1.1.1. However, there are some differences in quality of life attributes (public services), Environmental Justice, and Protection of Children, which are addressed below.

3.9.1.2.2 Quality of Life

Law Enforcement, Fire Protection, and Medical Services. City, county, and state police departments provide law enforcement in the ROI. The Victory Center site is in the jurisdiction of the City of Alexandria Police Department. The closest fire station to the Victory Center is the City of Alexandria Fire Department's Station 207 (City of Alexandria Fire Department, 2008). The Victory Center site is also in a jurisdiction that is part of the Northern Virginia Emergency Services Mutual Response Agreement (Northern Virginia Emergency Services, no date). The hospitals in closest proximity to the Victory Center site are Inova Mount Vernon Hospital, Inova Alexandria Hospital, and DeWitt Army Community Hospital on Fort Belvoir.

Services, Shops, and Recreation. The ROI also has an abundance of shops, restaurants, services (e.g., banks, gas stations and auto repair shops, dry cleaners, travel agencies) and recreational facilities (e.g., athletic fields, parks, movie theaters, historic sites, and music and theatrical venues). The Victory Center site is less than a mile from the Van Dorn Metro station and within walking distance or a short drive to the many shops, restaurants, and services in the City of Alexandria.

3.9.1.2.3 Environmental Justice

Table 3.9-2 lists the block groups that correspond to the Victory Center site and that are contiguous with the boundary of the site, and the minority-population and low-income statistics for these block groups and for Virginia. Of the 11 block groups identified for the Victory Center site, seven of them had a higher percentage of minority residents compared to the state. One of the block groups exceeded the state poverty rate.

3.9.1.2.4 Protection of Children

To the south of the Victory Center is a mixed use area including newly constructed condominium style housing. There are no day care centers, schools, or churches immediately adjacent to the Victory Center, but there are several schools and churches within one-half mile from the Victory Center, including Samuel W. Tucker Elementary School, Holly Hill School, Abundant Life Christian Center, and Baha'i Faith of Northern Virginia.

Table 3.9-2
Minority or low-income population—Victory Center alternative

Corresponding land area	Minority		Low-income	
	Census tract-block group	Percent minority	Census tract-block group	Percent below poverty level
Victory Center	2004.01-1	74%	2004.01-1	19.9%
Victory Center	2004.01-2	33%	2004.01-2	5.0%
Victory Center	2004.01-3	19%	2004.01-3	0.0%
Victory Center	2004.01-4	70%	2004.01-4	4.4%
Victory Center	2006-2	48%	2006-2	8.1%
Victory Center	4201-2	44%	4201-2	3.0%
Victory Center	4202-2	36%	4202-2	2.4%
Victory Center	4202-3	25%	4202-3	1.8%
Victory Center	4203-1	25%	4203-1	0.7%
Victory Center	4203-2	26%	4203-2	2.9%
Victory Center	4526-2	55%	4526-2	9.6%
Virginia	Virginia	30%	Virginia	9.6%

Source: U.S. Census Bureau, 2000.

3.9.1.3 **Mark Center**

3.9.1.3.1 **Economic Development**

Mark Center is in the City of Alexandria, Virginia. The economics of the region (employment, income, population, and housing) for the Mark Center site is the same as that described above for the GSA site in Section 3.9.1.1.1. However, there are some differences in quality of life attributes (public services), Environmental Justice, and Protection of Children, which are addressed below.

3.9.1.3.2 **Quality of Life**

Law Enforcement, Fire Protection, and Medical Services. City, county, and state police departments provide law enforcement in the ROI. Mark Center is in the jurisdiction of the City of Alexandria Police Department. The closest fire station to Mark Center is the City of Alexandria Fire Department's Station 206, about 0.5 miles southeast of the site on Seminary Road (City of Alexandria Fire Department, 2008). The Mark Center site is also in a jurisdiction that is part of the Northern Virginia Emergency Services Mutual Response Agreement (Northern Virginia Emergency Services, no date). The hospital closest to Mark Center is Inova Alexandria Hospital, which is less than a mile to the southeast on Seminary Road.

Services, Shops, and Recreation. The ROI has an abundance of shops, restaurants, services (e.g., banks, gas stations and auto repair shops, dry cleaners, travel agencies) and recreational facilities (e.g., athletic fields, parks, movie theaters, historic sites, and music and theatrical venues). Mark Center is a mixed-use community with residential apartments, a supermarket, child care facilities, banks, pharmacies, dry cleaners, restaurants, hotel, cafes, and the Winkler Botanical Reserve (a nature preserve with walking trails) which are at the site or within walking distance (Duke Realty, 2008).

Table 3.9-3
Minority or low-income population—Mark Center alternative

Corresponding land area	Minority		Low-income	
	Census tract-block group	Percent minority	Census tract-block group	Percent below poverty level
Mark Center	2001.02-2	66%	2001.02-2	8.2%
Mark Center	2001.04-1	61%	2001.04-1	6.3%
Mark Center	2001.04-2	74%	2001.04-2	11.5%
Mark Center	2001.05-1	68%	2001.05-1	11.1%
Mark Center	2002.01-3	63%	2002.01-3	8.7%
Mark Center	2003.01-1	66%	2003.01-1	17.4%
Virginia	Virginia	30%	Virginia	9.6%

Source: U.S. Census Bureau, 2000.

3.9.1.3.3 *Environmental Justice*

Table 3.9-3, above, lists the Census block groups that correspond to the Mark Center site and that are contiguous with the boundary of the site, and the corresponding minority-population and low-income statistics. Of the 6 block groups identified for Mark Center, all of them had a higher percentage of minority residents compared to the state. Three of the block groups exceeded the state poverty rate.

3.9.1.3.4 *Protection of Children*

Mark Center is a mixed-use area with residential apartments and two day care centers. There are no schools or churches immediately adjacent to the site. The Victorious Life Church and Church of the Resurrection are less than one-half mile from the site.

3.9.2 *Environmental Consequences*

3.9.2.1 *Alternative A: GSA Site*

Economic Development

Methodology. The economic effects of implementing the proposed action were estimated using the Economic Impact Forecast System (EIFS) model, a computer-based economic tool that calculates multipliers to estimate the direct and indirect effects resulting from a given action. Changes in spending and employment from the construction of facilities at the GSA site represent the direct effects of the proposed action. From the input data and calculated multipliers, the model estimated ROI changes in sales volume, income, employment, and population, accounting for the direct and indirect effects of the action.

For purposes of this analysis, a change is considered significant if it falls outside the historical range of ROI economic variation. To determine the historical range of economic variation, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This analytical process uses historical data for the ROI and calculates fluctuations in sales volume, income, employment, and population patterns. The positive and negative historical extremes for the ROI become the thresholds of significance (i.e., the RTVs) for social and economic change. If the estimated effect of an action falls above the positive RTV or below the negative RTV, the effect

is considered to be significant. Appendix F discusses this methodology in more detail and presents the model input and output tables developed for this analysis.

EIFS Model Results. Short- and long-term minor beneficial effects would be expected from conveyance of the GSA site to the Army and construction and operation of BRAC 133 facilities. The expenditures associated with renovation, construction, and operation of facilities on the GSA site would generate jobs in the construction industry and increases in local spending and income, and draw ancillary businesses to the area. The economic benefits from construction would be short-term, lasting only for the duration of the demolition and construction period. The increase in sales volume, income, and employment would fall within historical fluctuations (i.e., within the RTV range) and be considered minor (Table 3.9-4 and Appendix F).

Population. BRAC 133 would shift jobs from one location to another within the ROI. The vast majority of these personnel are federal civilian and contractor employees already residing in the ROI who commute to their BRAC 133 jobs at office buildings in northern Virginia. As with the Fort Belvoir BRAC EIS, it was assumed that up to 50 percent of the BRAC 133 employees might change their home residence to live closer to the proposed new BRAC 133 site. It was further assumed that these employees would be redistributed within the ROI as the current Fort Belvoir employees are distributed (see Figures 3-2 and 3-4 in Section 3.2, Transportation). These assumptions were used to determine the redistribution of personnel within the ROI due to the BRAC 133 action, which is a portion of the analysis conducted for the entire Fort Belvoir BRAC action in Section 4.10.2 of the Fort Belvoir BRAC EIS (USACE, 2007a).

BRAC 133 agencies employ about 6,409 people. Applying the assumption that 50 percent would relocate because of the BRAC 133 action, about 3,205 of these employees could move within the ROI. These persons are included as a portion of the total number of affected employees presented in the 2007 Fort Belvoir BRAC EIS (USACE, 2007a). All jurisdictions within the ROI would experience less than a 1 percent increase above current population projections, so these potential population changes would be considered minor but not significantly adverse. BRAC 133 employees would *not* be *required* to move. An employee's decision to move would depend on many factors such as the employee's commute time to work, a spouse's commute, changing a child's school district, or the cost of moving. Where an employee might decide to move also would be constrained by available housing and influenced by housing market conditions, the cost of housing, and household income. Construction of new housing would depend on the available land and whether or not the local county or city governments would permit the new housing to be built. The BRAC 133 office facility would not be completed until late 2011, and personnel that would choose to relocate would not be expected to move until that time or later (i.e., personnel would not move all at once, but over a period of time). The employees and their families moving in likely would not reside in a single location, but would be distributed across the ROI, characteristic of the NCR where federal employees, whose jobs are concentrated in various work centers, live throughout the ROI. Taking into consideration that the BRAC 133 job site would remain in Northern Virginia and that the site would be Metro accessible, it is reasonable to consider that BRAC 133 personnel currently residing in Arlington, Alexandria, Fairfax County, and Washington, DC, would not relocate. Finally, it also should be noted that jobs would be leaving the ROI due to other cumulative BRAC actions, which would offset potential effects on the ROI's population from BRAC 133. This is addressed in Section 3.13.3.9.

Table 3.9-4
EIFS model output

Indicator	Projected change	Percentage change	RTV range
Direct Sales Volume	\$425,500,000		
Induced Sales Volume	\$702,075,000		
Total Sales Volume	\$1,127,575,000	0.86%	-6.02% to 12.51%
Direct Income	\$94,991,040		
Induced Income	\$156,735,200		
Total Income	\$251,726,300	0.31%	-4.28% to 11.47%
Direct Employment	1,889		
Induced Employment	3,117		
Total Employment	5,006	0.34%	-3.67% to 4.36%
Local Population	0	0	-0.85% to 1.46%

Housing. Short-term minor adverse effects could occur. An increase in population would be expected to increase demand for housing. The ability to meet the demand depends on the current housing market conditions and available supply of existing housing and, if that supply is not sufficient to meet demand, the development of new housing. Construction of new housing would depend on the available land and whether or not the local county or city governments would permit the new housing to be built. The BRAC 133 office facility would not be completed until late 2011, and personnel would not be expected to move until that time or later, so the impact on housing would depend on that state of the housing market at that time. The current housing market is a buyer's market, with a high inventory of homes for sale and homes remaining on the market for an average of 92 days (MRIS, 2007).

Quality of Life. The following paragraphs identify the anticipated effects for each of the key components of quality of life.

Law Enforcement, Fire Protection, and Medical Services. Short-term minor adverse effects would be expected. The additional office space could result in a minor increase in emergency calls to the local police or fire stations that would serve the BRAC 133 office facility site. Police and emergency medical assistance would be provided to the site in the same manner as they are responded to at the current WHS office locations.

Schools. The Fort Belvoir BRAC EIS (USACE, 2007a) indicated potential short- and long-term minor but not significant adverse effects would be expected on schools in the ROI. Similar to the population analysis above, students affected by the BRAC 133 action represent a portion of the analysis conducted in the EIS.

As also discussed in the population analysis, the assumption that 50 percent of BRAC 133 employees would relocate within the ROI is a worst-case scenario. An employee's decision to move would depend on many factors such as the employee's commuting times, availability/affordability of housing, and changing a child's school. Determining need for school capacity is a function of zoning and planning that ensures capacity in a given neighborhood is consistent with the amount of available housing in that neighborhood, regardless of where the residents themselves may be

employed. BRAC 133 employees and their families moving would likely be distributed across the ROI and not be consolidated in a single location in the ROI.

Again, the number of school students potentially generated by BRAC 133 is included in the total presented in the Fort Belvoir BRAC EIS (USACE, 2007a). It must also be taken into consideration that 14,500 jobs would physically leave the ROI due to other BRAC actions. Families leaving the ROI due to these other actions (an estimated 35,900 persons, which includes about 12,700 school-age children) would reduce or offset the potential BRAC effects on schools. In Fairfax County, the net estimated increase of students from all BRAC actions in the ROI, including BRAC 133, was estimated to be 266, as demonstrated in a letter sent to the Fairfax County Public Schools (FCPS) in September 2007. A letter from FCPS with comments on the Fort Belvoir BRAC EIS and this reply are provided in Appendix F. This net increase is addressed further in Section 3.13.3.9.

New residents that would possibly relocate within the ROI because of the proposed action primarily would be federal civilian employees. An increase in population would cause an increase in the demand for public education services; however, services would be funded by tax revenue from new civilian population. In addition, the Federal Impact Aid Program through Basic Support Payments (Section 8003[b]) would continue to help local school districts that educate federally connected children (U.S. Department of Education, 2006).

Services, Shops, and Recreation. Short-term minor adverse effects would be expected. The 6,409 BRAC 133 personnel would increase demand on shops and services in the vicinity of the BRAC 133 facility. Levels of service could decrease, causing customers to have longer wait times or to return at other times. In the long term, stores could hire additional employees and new shops could be established in response to demand, providing more shops and a wider variety of shopping and service stores.

Environmental Justice. Short-term minor adverse effects would be expected. Implementation of the proposed action would result in temporarily increased noise levels from construction activities, but this would not result in disproportionately high adverse environmental or health effects on low-income or minority populations. Construction noise would be intermittent and reduced with measures such as construction equipment mufflers would be properly maintained, and construction would predominately occur during normal weekday business hours. The proposed action (construction and operation of an office building) would not result in potentially high and adverse effects that require further analysis for environmental justice purposes. It is not necessary, therefore, to assess whether minority or low-income populations would be disproportionately affected by the proposed action by undertaking additional demographics analysis.

Further, mitigation and enhancement measures, as well as offsetting benefits to affected minority and low-income populations, may be taken into account when making determinations regarding disproportionately high and adverse effects to those populations. As described above regarding economic development, the proposed action would provide short and long-term minor beneficial effects to the surrounding area, including its minority and low-income residents. The benefits further support the conclusion that the proposed action would not cause disproportionately high and adverse effects under EO 12898.

Protection of Children. No effects would be expected. Implementation of the proposed action would not result in disproportionate adverse environmental or health or safety risks to children. The proposed action (construction and operation of an office building) is not an action with the

potential to substantially affect children's health and safety. There are no schools, churches, or day care centers adjacent to the site. When needed, the Army would take precautions for the safety of children to protect them from dangerous areas (such as a construction sites) and harmful materials by the use of fencing, limitations on access to certain areas, and provision of adult supervision. The BRAC 133 facility construction site at GSA would be secure and prohibit children from neighboring residential areas from entering the site. After construction, the GSA site would remain fenced and site access would be limited. The proposed action would not expose children to dangerous situations or harmful materials that would jeopardize their health or safety.

3.9.2.2 *Alternative B: Victory Center*

Economic Development. Short- and long-term minor beneficial effects would be expected from construction and operation of BRAC 133 facilities at Victory Center. The expenditures associated with construction of facilities would generate jobs in the construction industry and increases in local spending and income. The economic benefits from construction would be short-term, lasting only for the duration of the demolition and construction period. The increase in sales volume, income, and employment would fall within historical fluctuations (i.e., within the RTV range) and be considered minor (Table 3.9-4 and Appendix F).

Population. Effects would be the same as those described above in Section 3.9.2.1–*Population*.

Housing. Effects would be the same as those described above in Section 3.9.2.1–*Housing*.

Quality of Life. Effects for quality of life components (law enforcement, fire protection, medical services, public schools, family support, shops and services, and recreation) would be the same as those described above in Section 3.9.2.1–*Quality of Life*.

Environmental Justice. Effects would be the same as those described above in Section 3.9.2.1–*Environmental Justice*.

Protection of Children. No effects would be expected. Implementation of the proposed action would not result in disproportionate adverse environmental or health or safety risks to children. The proposed action (construction and operation of an office building) is not an action with the potential to substantially affect children's health and safety. There are no schools, day care centers, or churches immediately adjacent to the site. When needed, the Army would take precautions for the safety of children to protect them from dangerous areas (such as a construction sites) and harmful materials by the use of fencing, limitations on access to certain areas, and provision of adult supervision. The Victory Center site would be fenced and site access would be limited, prohibiting children from neighboring residential areas from entering the site. The proposed action would not expose children to dangerous situations or harmful materials that would jeopardize their health or safety.

3.9.2.3 *Alternative C: Mark Center*

Economic Development. Short- and long-term minor beneficial effects would be expected from construction and operation of BRAC 133 facilities at Mark Center. The expenditures associated with construction of facilities would generate jobs in the construction industry and increases in local spending and income. The economic benefits from construction would be short-term, lasting only for the duration of the demolition and construction period. The increase in sales volume, income, and employment would fall within historical fluctuations (i.e., within the RTV range) and be considered minor (Table 3.9-4 and Appendix F).

Population. Effects would be the same as those described above in Section 3.9.2.1–*Population*.

Housing. Effects would be the same as those described above in Section 3.9.2.1–*Housing*.

Quality of Life. Effects for quality of life components (law enforcement, fire protection, medical services, public schools, family support, shops and services, and recreation) would be the same as those described above in Section 3.9.2.1–*Quality of Life*.

Environmental Justice. Effects would be the same as those described above in Section 3.9.2.1–*Environmental Justice*.

Protection of Children. No effects would be expected. Implementation of the proposed action would not result in disproportionate adverse environmental or health or safety risks to children. The proposed action (construction and operation of an office building) is not an action with the potential to substantially affect children's health and safety. There are no schools, day care centers, or churches immediately adjacent to the site. When needed, the Army would take precautions for the safety of children to protect them from dangerous areas (such as a construction site) and harmful materials by the use of fencing, limitations on access to certain areas, and provision of adult supervision. The Mark Center site would be fenced and site access would be limited, prohibiting children from neighboring residential areas from entering the site. The proposed action would not expose children to dangerous situations or harmful materials that would jeopardize their health or safety.

3.9.2.4 No Action Alternative

Regional Economic Activity, Population, Housing, and Quality of Life. No effects would be expected. There would be no change in sales volume, income, employment, or population as a result of implementing the No Action Alternative. There would be no change in demand for housing, public services, schools, or shopping and recreation facilities.

Environmental Justice. No effects would be expected. Implementation of the No Action Alternative would not result in disproportionate adverse environmental or health effects on low-income or minority populations. Under the No Action Alternative, the units, agencies, and activities collectively known as BRAC 133 originally slated to relocate to Fort Belvoir would continue to operate at their present locations. The continuation of existing conditions (WHS employees working in their current office locations) is not an action that would affect human health or the environment by excluding persons, denying persons benefits, or subjecting persons to discrimination.

Protection of Children. No effects would be expected. Implementation of the No Action Alternative would not result in disproportionate adverse environmental or health or safety risks to children. The continuation of existing conditions is not an action that would affect children's health and safety.

3.9.3 BMPs/Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures to socioeconomic resources would be required with the implementation of the proposed action.

3.10 AESTHETICS AND VISUAL RESOURCES

3.10.1 Affected Environment

Aesthetics and visual resources are the natural and man-made features of a landscape. They include cultural and historic landmarks, landforms of particular beauty or significance, water surfaces, and vegetation. Together these features form the overall impression that a viewer receives of an area or its landscape.

Scenic integrity considers how well a man-made alteration integrates into the original landscape. The less an alteration changes the size, shape, edge effect, and pattern of a natural landscape, the more scenic integrity it possesses. The different grades of scenic integrity are explained in Table 3.10-1.

Table 3.10-1
Scenic integrity definitions

High (Unaltered/Appears Unaltered)
Landscapes where the valued landscape character “is intact” with only minute, if any, deviations. The existing landscape character and sense of place are expressed at the highest possible level.
Moderate (Slightly to Moderately Altered)
Landscapes where the valued landscape “appears slightly altered.” Noticeable deviations must remain visually subordinate to the landscape character being viewed. Landscapes where the valued landscape character “appears moderately altered.” Deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed. They should appear only as valued character outside the landscape being viewed but compatible or complementary to the character within.
Low (Heavily Altered)
Landscapes where the valued landscape character “appears heavily altered.” Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed.

Source: USFS, 1995.

3.10.1.1 GSA Site

The viewshed of the GSA site consists of I-95 and Loisdale Road to the west, Franconia-Springfield Parkway to the north, and commercial, residential, and forested areas to the east and south. The site is nearly fully developed and comprised of three architecturally basic warehouse storage facilities and parking lots. The largest structure out of the three is Building A which is approximately 1,800 feet by 450 feet and has the “largest wooden roof truss system east of the Mississippi” (Secretary of the Army, 2007). Buildings B and C share the same architecture style as Building A, but are much smaller. The basic architecture of the industrial facilities coupled with the lack of landscaping give the parcel a low scenic integrity.

Aesthetic integrity of the surrounding land uses is equal to or higher than that of the GSA site. To the north, there is aesthetically low to moderate quality features such as the Springfield Franconia Parkway and the Springfield Mall. There is also aesthetically moderate quality features such as varied apartment style residential areas and open fields. To the east and south, there are aesthetically moderate to high quality residential areas and forested areas. To the west, there are the aesthetically low quality I-95 and aesthetically moderate quality residential area.

3.10.1.2 Victory Center

The Victory Center is in the City of Alexandria, four miles northeast of the GSA site. The 16-acre site is rectangular in shape and consists of an existing 530,000 ft² 10-story building currently under renovation. The remainder of the site consists of paved parking (Eisenhower Real Estate Holdings, 2007). There is a minimum amount of landscaping along the southern edge of the area. The site is characterized as having low scenic integrity with areas with low to moderate scenic integrity surrounding the parcel. The site is bordered by a wooded riparian area along a channelized stream, a train yard, and a townhouse style residential area to the north, a commercial area to the east, residential and commercial areas to the south, and an incinerator to the west.

3.10.1.3 Mark Center

The 24-acre Mark Center BRAC 133 footprint currently contains two existing office buildings and associated infrastructure, with the rest of the footprint open, forested, or partially forested, as shown in Figure 2-4. Mark Center makes up a portion of a larger developed area bordered by Seminary Road, I-395, North Beauregard Street, and the Winkler Botanical Preserve. The two existing buildings are 4825 Mark Center Drive, an 8-story structure that has about 215,000 ft² of office space, and 4850 Mark Center Drive, a 10-story structure that has about 285,000 ft² of office space (ATC, 2005; Duke Realty, 2008). Vegetation on the Mark Center site is common, with about 13 acres of the 24-acre BRAC 133 footprint currently forested with upland hardwood stands or partially forested with landscaped trees. Although the site contains multi-story office buildings, it retains a moderate amount of aesthetic integrity because of the forested and natural areas and landscaping features. The aesthetic quality of the surrounding areas varies from more heavily developed areas in the north, east, and south to forested areas to the west and northwest. In particular, the Winkler Botanical Preserve to the west provides a scenic natural contrast to development in the area.

3.10.2 Environmental Consequences

3.10.2.1 Alternative A: GSA Site

Under this alternative, the BRAC 133 facility would be located on the GSA site, resulting in short-term minor adverse and long-term minor beneficial effects. There would be some short-term adverse effects on the site during construction from inherently displeasing construction activities. Upon completion, the development of the BRAC 133 complex on the GSA site would be expected to increase the visual integrity from that of low Industrial to moderate Professional/Institutional land uses. Proposed building heights for the BRAC 133 facilities would be up to 15 stories for the buildings and 5 to 6 stories for the parking structures (BNVP, 2007). These new buildings would be visible from surrounding areas and could affect visual integrity of surrounding areas although presence of existing taller buildings lessens this impact. The redevelopment of the GSA site would include modern architecture and landscaping which would improve the aesthetic integrity of the area.

3.10.2.2 Alternative B: Victory Center

The Victory Center alternative would be expected to have short-term minor adverse and long-term minor beneficial effects on aesthetic quality. The existing 10-story building on the site is currently being renovated with both interior improvements and to update the exterior shell of the building to reflect recent architectural styles. Up to two additional buildings of similar design of up to 15 stories as well as up to three structured parking facilities of up to 7 stories would be

constructed. This proposed development by the owner of the site has been approved by the City of Alexandria regardless if BRAC 133 or another tenant ultimately occupies the site (Eisenhower Real Estate Holdings, 2007). Construction activities would be expected to have a short-term minor adverse effect on aesthetics because such activities can be inherently displeasing. The new buildings would be visible from surrounding areas and could affect visual integrity of surrounding areas, but the presence of existing buildings of similar height on the site and nearby offsets this impact. The renovation, new construction, and new landscaping associated with the developments would be expected to improve long-term aesthetic quality of the site.

3.10.2.3 Alternative C: Mark Center

The Mark Center alternative would be expected to have short- and long-term minor adverse effects on aesthetic quality. Effects would not be expected to be significantly adverse because no alteration or impairment of visual quality not consistent with federal, regional, state, and local planning and zoning guidelines would occur. The proposed development by the owner of the site has been approved by the City of Alexandria regardless if BRAC 133 or another tenant ultimately occupies the site. Short-term adverse effects would occur during construction from inherently displeasing and disruptive activities associated with construction. Due to the moderate aesthetic quality of the natural landscapes of portions of the existing site, the construction of additional office buildings of up to 15 stories and parking garages of up to 6 stories would be expected to have a long-term minor adverse effect on the aesthetic quality of the site. The new buildings would be visible from surrounding areas and could affect visual integrity of surrounding areas, but the presence of existing buildings of similar height on the site and nearby reduces this impact. Loss of vegetation due to land clearing activities would be expected as described in Section 3.7.2.3.

3.10.2.4 No Action Alternative

Implementing the No Action Alternative would be expected to have no effects on aesthetic integrity.

3.10.3 BMPs/ Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures to aesthetics and visual resources would be required with the implementation of the proposed action.

3.11 UTILITIES

3.11.1 Affected Environment

GSA Site. Utility services available at the GSA site include potable water supply and distribution, sanitary sewage collection, electricity, natural gas, communications and municipal solid waste collection (USACE, 2007a).

Victory Center. Utility services available at the Victory Center Office Complex include potable water supply and distribution, sanitary sewage collection, electricity, natural gas, communications and municipal solid waste collection. Victory Center is planning to increase the available office space and is in the processes of augmenting all utility services from public and private service providers in order to provide the required level of service.

Mark Center. Utility services available at the Mark Center site include potable water supply and distribution, sanitary sewage collection, electricity, natural gas, communications and municipal

solid waste collection. Augmenting of all utility services to include additional office space at Mark Center is being pursued by the current owners of Mark Center property. These include both public and private service providers currently operating in the area.

3.11.1.1 Potable Water Supply and Distribution

GSA Site. Fairfax Water provides potable water for the GSA site via a 12-inch main along Loisdale Road. In addition, a 30-inch supply line is located within a short distance of the GSA site. Distribution network pipes of varying sizes provide potable water for the different buildings at the site for approximately 150 personnel currently employed there. Water sampling performed in 2000 in selected buildings at the GSA site indicated levels of lead exceeding USEPA's primary drinking water limits at one location. In addition, elevated levels of iron were also detected in isolated locations during testing (Tidewater, 2000). For this reason, drinking water is brought onsite via bottled water (Donatone, 2007). No storage capacity is available for potable water at the site (Donatone, 2006).

Victory Center. Virginia American Water Authority provides potable water for the Victory Center by a 12-inch water main located along Eisenhower Avenue. A 300-foot long, 8-inch diameter potable water supply line connects the Victory Center with the 12-inch water main along Eisenhower Avenue. In addition an 8-inch fire line from the water main along Eisenhower Avenue extends along the west side of the Victory Center building and continues across the rear of the building (Wagaman, 2007). Current demand for potable water at the Victory Center was not available, but is likely low due to the current unoccupied state of the building on the site.

Mark Center. Virginia American Water provides potable water for the Mark Center site. A network of 8- and 12-inch diameter waterlines along Mark Center Drive and Seminary Road, respectively, provide potable water supply to the existing buildings at the site. In addition, Virginia American Water has easements of various widths in the area complex to provide additional waterlines when required.

3.11.1.2 Sanitary Sewage Collection and Treatment

GSA Site. There is an existing 12-inch gravity trunk sewer line along Loisdale Road east of Building A at the GSA site. Sanitary waste from the GSA site is directed to the Noman M. Cole Jr. Pollution Control Plant via the Long Branch Pump Station located along Telegraph Road (Donatone, 2006; Osei-Kwadwo, 2007). Levels of existing sanitary sewer flows from the GSA site were not available. The Noman M. Cole Jr. Pollution Control Plant has a maximum daily sewage treatment capacity of 67 million gallons per day (mgd) and receives an average of 45 mgd from all dischargers to the system. This plant discharges its effluent into Pohick Creek, which flows into the Potomac River under Permit Number VA0025364 (USACE, 2007a). No septic tanks were identified within or abutting the GSA site.

Victory Center. Sanitary sewage from Victory Center is collected through an 8-inch lateral pipe on the site, which flows into a 10-inch sanitary sewer line owned by the City of Alexandria. This pipe connects with a 12-inch sanitary sewer line feeding into a 33-inch trunk sewer along Southern Railroad Property (Metro) that feeds into a 60-inch trunk sewer. These 12-, 33-, and 60-inch sewers are owned by Fairfax County. The sewage eventually flows into an Alexandria Sanitation Authority (ASA)-owned 72-inch Holmes Run Trunk Sewer at the Cameron Regional Valley Park at Eisenhower Avenue. The 72-inch trunk main is reduced to a 60-inch main leading to the ASA treatment plant. The ASA plant is located on the north bank of Hunting Creek near its junction with the Potomac River and has a design capacity of 54 mgd (Moomaw, 2007;

Wagaman, 2007). Flow details of sanitary sewage discharge from the Victory Center site were not available, but are likely low due to the current unoccupied state of the building on the site.

Mark Center. Sanitary waste from the Mark Center site is collected by the City of Alexandria and treated at the ASA treatment plant described above. A grid of 10-inch sewers along Mark Center Drive and other roads within the complex collect the sanitary waste from the existing buildings. Easements of varying widths are also available for installing future sanitary sewer infrastructure.

3.11.1.3 Electricity

GSA Site. Electricity for the GSA site is supplied by Dominion Virginia Power. The electric line runs from Loisdale Road into the complex and is distributed from power pole to power pole and supplied to individual buildings (Donatone, 2006). Electrical transformers are present on the site. The average annual electricity consumption at the GSA site from 2004 to 2006 was 22,272 British Thermal Units (BTUs) (Donatone, 2007).

Victory Center. Dominion Virginia Power (DVP) is responsible for supplying the Victory Center with its electrical power. DVP provides power via an overhead, three-phase 35k-volt line across the front of the Victory Center site, with a circuit tie switch near the west end of the site. This circuit tie switch separates the two circuits powered from the Hayfield substation and the Virginia Hills substation. Electrical usage at the Victory Center site was not available, but is likely low due to the current unoccupied state of the building on the site (Field, 2007; Stroud, 2008).

Mark Center. DVP provides electricity supply to the Mark Center site. Power supply lines enter Mark Center by underground cables at the intersection of Mark Center Drive and Seminary Road and transverses the site in a southerly direction. Electrical transformers are located near the two existing buildings in the BRAC 133 footprint. During 2007, the average monthly consumption of electricity for the two existing buildings was approximately 1.5 million kWh (Dawson, 2008; Koppenhaver, 2008).

3.11.1.4 Natural Gas

GSA Site. Natural gas is provided to the GSA site by Washington Gas from a transmission line along the eastern edge of Loisdale Road. One main meter and seven submeters installed by Washington Gas monitor the quantity of gas provided (Donatone, 2006). The average annual natural gas consumption at the GSA site from 2004 to 2006 was 29,764 BTUs (Donatone, 2007).

Victory Center. Washington Gas provides natural gas to the Victory Center via a 2-inch plastic high pressure lateral line running perpendicular from a six-inch high pressure gas main located along Eisenhower Avenue (Baker, 2007; Wagaman, 2007). The six-inch main has a maximum capacity of 30,000 cubic feet per hour. This main along Eisenhower Avenue is fed from a 12-inch main that originates along Franconia Road (Stroud, 2008). Natural gas usage at the Victory Center site was not available, but is likely low due to the current unoccupied state of the building on the site.

Mark Center. Natural Gas for the Mark Center site is provided by Washington Gas. An existing 12-inch gas main is in an easement adjacent to the Mark Center and I-395 southbound ramp southeast of Building 4825. A smaller gas main serving Building 4850 is located along Mark Center Drive on the southwest corner of the site. Building 4825 does not utilize any gas service (Koppenhaver, 2008).

3.11.1.5 Steam

GSA Site. No steam utility services are available at the GSA site (Donatone, 2006).

Victory Center. No steam utility services are provided at the Victory Center.

Mark Center. Steam utility services are not currently available at the Mark Center site.

3.11.1.6 Communications

GSA Site. Communication services are provided by Verizon for the GSA site (Donatone, 2006).

Victory Center. Verizon and Comcast provide various communication services in the area where the Victory Center is located (Field, 2007). Verizon has overhead and underground lines across the front of the Victory Center site (Stroud, 2008).

Mark Center. Telecommunication services are provided by Verizon at the Mark Center site (Duke Realty, 2008).

3.11.1.7 Solid Waste Management

GSA Site. Municipal solid waste is collected from the GSA site by Urban Services and disposed of at the Prince William County landfill site in Virginia. The warehouse complex also has a recycling program, and recycled waste is collected by Recycle America (Donatone, 2006).

Victory Center. Potomac Disposal Services of Virginia, LLC, is responsible for the collection of municipal solid waste from the Victory Center. The solid waste is disposed at the Covanta Alexandria incinerator facility on Eisenhower Avenue in Alexandria. Potomac Disposal Service has a recycling program in place for the municipal solid waste.

Mark Center. Municipal solid waste from the existing buildings is collected by Potomac Disposal Services of Virginia for eventual disposal. Recycling is handled by World Recycling, Inc. Recycled waste is processed at their facility in Cheverly, Maryland.

3.11.2 Environmental Consequences

Short-term minor adverse effects would occur due to construction activities to achieve the extent of upgrades necessary for the various utility systems in the vicinity of the GSA warehouse, Victory Center, and Mark Center sites. Any improvements to the existing capacities of the above utility services should also consider the effects of the BRAC 133 action on local area utility customers. The levels of impacts are applicable to all individual utility systems and are described in detail in the following paragraphs.

The assessment of BRAC 133 on utilities includes impacts due to additions and upgrades to be implemented to individual utility systems to cater for the demand exerted by BRAC 133, including proposed renovation of the existing office buildings at Victory Center and Mark Center and provision of additional building space by the site developer for BRAC 133 under all three alternatives.

3.11.2.1 Potable Water Supply and Distribution

Alternative A: GSA Site. Using a per capita water consumption of 75 gallons per day for the proposed net increase of 6,259 personnel, the demand for potable water at the GSA site would increase by about 0.47 mgd under Alternative A. Existing potable water supply lines at the GSA site could be tapped to provide water supply for the BRAC 133 personnel moving to the site. Substantial investments to upgrade existing and build additional new potable water distribution and storage systems would be necessary at the GSA site. In addition, based on the test results of water sampling performed at various buildings at the GSA site, replacement of some potable water supply distribution pipes at the GSA site may be necessary prior to the relocation of BRAC 133 personnel to the GSA site.

Alternative B: Victory Center. Supply and distribution capacities for potable water supply at existing and planned/permitted office space at Victory Center is estimated to be sufficient to cater for the potable supply need of 6,409 personnel moving to the site under Alternative B. In order to continue to maintain the level of service to be provided to the Victory Center after its eventual occupation and cater to any future growth in the area from commercial and housing developments, the City of Alexandria should periodically evaluate the capacity of its existing potable water supply system infrastructure in the vicinity of Victory Center. This would enable the City of Alexandria to implement any necessary augmentation of the potable water system infrastructure in the area and maintain the required level of service. In addition to upgrades to the existing potable water supply distribution system, new distribution and potable water storage systems using water-saving devices should be implemented in permitted and planned office space. While planned and permitted office buildings at Victory Center would have water saving devices installed, renovations for existing buildings currently implemented would upgrade the existing potable water distribution lines and accessories to conserve water, thus having a long-term beneficial effect.

Alternative C: Mark Center. Under Alternative C, sufficient capacity is available to provide required level of potable water supply to 6,409 personnel proposed to move to the Mark Center site. The existing buildings proposed to be utilized as part of the BRAC 133 action are relatively new and would require very minimal upgrades to the existing potable water supply infrastructure. However, recommendations made under Alternative B above, for new on-site and existing off-site potable water supply infrastructure, are applicable under Alternative C as well.

No Action Alternative. No effects would be expected. BRAC 133 would not be implemented under the No Action Alternative. No changes in population and subsequent increase in demand for potable water supply would occur under the No Action Alternative.

3.11.2.2 Sanitary Sewage Collection and Treatment

Alternative A: GSA Site. Under Alternative A, the demand for sanitary sewer services would increase by about 0.38 mgd at the GSA site. This increase is based on a per capita discharge of 60 gallons per day for the net increase of 6,259 personnel. The existing 12-inch sanitary sewer line at the GSA site has sufficient capacity to carry the additional sanitary waste flow generated at the site as a result of implementing the BRAC 133 action. However, Fairfax County has confirmed that it is essential to replace approximately 220 feet of 10-inch pipe under the railroad tracks with a larger size in order to support the BRAC 133 personnel (BNVP, 2007). New collections system pipes, interceptors and appurtenances would be required to convey the sanitary waste to the existing trunk main. The additional wastewater flow of about 0.38 mgd, together with any other additional discharges planned in the near-term, should be considered when

evaluating existing discharge limits Fort Belvoir has with the Fairfax County for discharge of wastewater to the county sewer system.

Alternative B: Victory Center. Collection capacity at existing and planned/permitted office space at Victory Center is estimated to be sufficient to cater for sanitary sewer discharges from 6,409 personnel moving to the site under Alternative B. In order to continue to maintain the level of service to be provided to the Victory Center after its eventual occupation and cater to any future growth in the area from commercial and housing developments, the City of Alexandria should periodically evaluate the capacity of its existing sanitary sewage collection and treatment system infrastructure in the vicinity of Victory Center. This would enable the City of Alexandria to implement any necessary augmentation of the sanitary sewer infrastructure in the area and maintain the required level of service.

Alternative C: Mark Center. It is estimated that sufficient collection and treatment capacity is available for off-site sanitary sewer infrastructure to cater for the demand exerted by 6,409 personnel proposed to move to Mark Center under Alternative C. An evaluation of the impact of this alternative should be considered by the City of Alexandria and the ASA in planning for future collection and treatment capacity needs in the area.

No Action Alternative. No effects would be expected. BRAC 133 would not be implemented under the No Action Alternative. No changes in population and subsequent increase in demand for sanitary sewer services would occur under the No Action Alternative.

3.11.2.3 Electricity

Alternative A: GSA Site. Anticipated demand for electric power for the BRAC 133 personnel is estimated as 25.4 megavolt amperes (MVA) under current demand and at 28.0 MVA with project growth. Under Alternative A, Dominion Virginia Power would need to make upgrades to the electrical transmission and distribution systems to provide power to the BRAC 133 personnel moving to the GSA site. Dominion Virginia Power can supply electricity to the GSA site from its Hayfield substation located near the site by 2010 to meet the BRAC 133 program demand. In addition, it is anticipated that Dominion Virginia Power can supply the demand for electricity from the proposed 34.5 kilovolt (kV) substation being built at EPG to support electric power requirements for BRAC actions there. In order to address issues related to reliability of electricity supply from the Hayfield Substation, a combination of supply sources using EPG and Hayfield may be desirable, provided concerns of other BRAC tenants, such as the National Geospatial-Intelligence Agency (NGA) moving to EPG, on possible interruptions of supply are addressed (WHS, 2007).

It could take three to five years to obtain easements to supply the required level of electricity to the GSA site (BNVP, 2007). New electrical distribution systems would be constructed at the GSA site to provide electricity for the BRAC 133 personnel.

Alternative B: Victory Center. On-and off-site electricity infrastructure at existing and planned/permitted office space at Victory Center is estimated to be sufficient to cater for demand for electricity from 6,409 personnel in a typical office setting moving to the site under Alternative B. However, concerns were raised by DVP to supply the required amount of electricity and provide redundancy in catering for the additional BRAC 133-specific requirements. DVP has evaluated its capacity to provide electricity to proposed and permitted building space at the Victory Center during the permit approval process for buildout of the Victory Center site. Concerns raised by DVP include ability to provide the necessary level of service by 2011, lack of

redundancy in the proposed system, and the survivability requirements of BRAC 133. This would likely require installation of additional infrastructure to be able to provide the necessary power level to the site (WHS, 2007).

While planned and permitted office buildings at Victory Center would have energy saving devices installed, renovations for existing buildings would bring the utility systems to current standards.

Alternative C: Mark Center. Dominion Virginia Power has the required infrastructure to provide the required level of electricity for the BRAC 133 tenants proposed to move to Mark Center under Alternative C. However, the concerns stated previously under Alternative B may exist in providing the level of service within the required timeframe stated in the BRAC schedule.

No Action Alternative. No effects would be expected. BRAC 133 would not be implemented under the No Action Alternative. No changes in population and subsequent increase in demand for electricity would occur under the No Action Alternative.

3.11.2.4 Natural Gas

Alternative A: GSA Site. Using an estimate of 2.5 million cubic feet (MMcf) of natural gas per 100,000 square feet of office space per year, the GSA site would require 38 MMcf of natural gas per year. Washington Gas has sufficient capacity to provide the additional quantity of natural gas from existing distribution network near the GSA site to meet the additional demand. However, the impact of the total increase for natural gas of 38 MMcf per year due to the construction of additional building space at the GSA site due to BRAC 133 personnel moving to the site under Alternative A, together with any other additional demand for natural gas from nearby facilities in the near future, should be considered in evaluating any changes needed to the current total purchase capacity of 160 MMcf per year that Fort Belvoir has with Washington Gas.

In addition, a new distribution network would be required at the GSA site to supply natural gas for the individual buildings.

Alternative B: Victory Center. On- and off- site natural gas supply and distribution network at existing and planned/permitted office space at Victory Center is estimated to be sufficient to cater for demand for natural gas from 6,409 BRAC 133 personnel moving to the site under Alternative B. Washington Gas evaluated its ability to provide the required level of natural gas to tenants moving to Victory Center during the permit approval process for buildout of the site.

Alternative C: Mark Center. It is estimated that sufficient capacity is available in the Mark Center site area for the natural gas provider to address the demand for natural gas exerted by the BRAC 133 tenants under Alternative C.

No Action Alternative. No effects would be expected. BRAC 133 would not be implemented under the No Action Alternative. No changes in population and subsequent increase in demand for natural gas would occur under the No Action Alternative.

3.11.2.5 Steam

Alternative A: GSA Site. Use of steam is not planned for the GSA site, but BRAC 133 personnel at the GSA site may opt to have individual centralized utility plants to provide emergency power,

steam, and cooling water to meet the specific needs of equipment and other accessories. This would require construction of infrastructure to accommodate this utility.

Alternative B: Victory Center. Use of steam is not planned for the Victory Center site, but BRAC 133 may opt to have individual centralized utility plants at the Victory Center to provide emergency power, steam, and cooling water to meet the specific needs of equipment and other accessories. This would require construction of infrastructure to accommodate this utility.

Alternative C: Mark Center. Steam is not planned to be used at the Mark Center site under Alternative C. However, BRAC 133 may opt to have individual centralized utility plants at the Mark Center site to provide emergency power, steam, and cooling water to meet the specific needs of equipment and other accessories. This would require construction of infrastructure to accommodate this utility.

No Action Alternative. No effects would be expected. No changes in population and subsequent increase in demand for steam would occur under the No Action Alternative.

3.11.2.6 Communications

Alternative A: GSA Site. A new telecommunication network would be required at the GSA site to satisfy the needs for communication systems as required under Alternative A. Improvements would be necessary to the existing minimal communication infrastructure available at the GSA site to meet the demand of BRAC 133.

Alternative B: Victory Center. Existing onsite and offsite communication infrastructure at Victory Center is estimated to be sufficient to cater for 6,409 personnel moving to the site under Alternative B. While planned and permitted office buildings at Victory Center would have efficient communication devices installed, the ongoing renovation of the existing building would bring the existing communication systems at Victory Center to current standards and requirements.

Alternative C: Mark Center. Communications infrastructure currently in place in the vicinity of Mark Center site is estimated to be sufficient to provide the necessary services for 6,409 additional personnel proposed to move to Mark Center under Alternative C.

No Action Alternative. No effects would be expected. No changes in population and subsequent increase in demand for communication services would occur under the No Action Alternative.

3.11.2.7 Solid Waste

Alternative A: GSA Site. Using the USEPA's national average of one lb/day/employee and 5-day work week, approximately 813 tons of municipal solid waste (MSW) per year would be generated at the GSA site by the net increase of 6,259 tenants. Close to 50 percent of this solid waste generated would be recycled under the existing mandatory recycling program in effect at Fort Belvoir.

In addition to the above quantity of solid waste generated from BRAC 133 personnel, Table 3.11-1 presents an estimate of the construction and demolition debris (CDD) that would be generated at the GSA site by construction and demolition activities. The figures shown in the table include the demolition of Building A at the GSA site (Secretary of the Army, 2007).

Per requirements stipulated in an Assistant Chief of Staff for Installation Management (ACSIM) memorandum, February 6, 2006, a minimum of 50 percent of the estimated 51,603 tons of CDD would be diverted from landfills. As a result of this sustainable management of waste in military construction, renovation, and demolition activities, approximately 25,802 tons of CDD would be disposed of in various landfill sites in the area. The overall quantity of 25,802 tons of CDD equates to a yearly average (on the basis of 4 years of construction activity) of 6,451 tons, or a monthly average of approximately 538 tons. Area landfill lifespans would be reduced from their current estimates because of solid waste generated under the Alternative A, but capacities are sufficient to handle the short-term waste that would be generated from construction and renovation activities and the long-term operational waste from the increased population at the GSA site.

Alternative B: Victory Center. Construction and demolition activities by the developer of the Victory Center would generate CDD. Table 3.11-2 presents an estimate of the CDD that would be generated at the Victory Center by construction and renovation activities.

In addition to the CDD generated, MSW will be generated by BRAC 133 tenants moving to the Victory Center. Using EPA's national average of one lb/day/employee and 5-day work week, approximately 832 tons of MSW per year would be generated at the Victory Center. Close to 50 percent of this municipal solid waste generated would be recycled under the existing mandatory recycling program in effect at Fort Belvoir.

Alternative C: Mark Center. Construction and demolition activities by the developer of the Mark Center would generate CDD. Table 3.11-3 presents an estimate of the CDD that would be generated at the Mark Center by construction and renovation activities.

In addition to the CDD generated, MSW will be generated by BRAC 133 tenants moving to the Mark Center site under Alternative C. Using EPA's national average of one lb/day/employee and 5-day work week, approximately 832 tons of MSW per year would be generated at the Mark Center by the 6,409 BRAC personnel moving to the site. This is in addition to the MSW generated by tenants who may continue to occupy some of the existing buildings at Mark Center. Close to 50 percent of the municipal solid waste generated would be recycled under the existing mandatory recycling program in effect at Fort Belvoir.

No Action Alternative. No effects would be expected. No changes in population and subsequent increase in demand for disposal of solid waste would occur under the No Action Alternative.

3.11.3 BMPs/Mitigation

Training for staff and contractors on water conservation measures in domestic water use and water use for construction activities would be provided. Required training would also be provided for in-house staff on materials eligible for recycling municipal solid waste generated by BRAC 133 personnel and methods for achieving the goals set by Fort Belvoir. An adequate number of containers would be provided in all appropriate locations for collection of recycled municipal solid waste. In addition, Army recycling requirements would be incorporated for CDD into all contracts awarded to outside contractors. Additional BMPs are listed in Table 3.14-1.

Table 3.11-1
Estimates of construction and demolition debris generated
at the GSA site under Alternative A

Construction activity type	Area (ft ²)	CDD factor (lb/ft ²)	Estimated waste (lb)	Estimated waste (tons)
Construction (Office Space)	1,500,000	4.4	6,600,000	3,300
Construction (Parking Structure)	1,250,000	2.8	3,456,250	1,728
Renovation		20		
Demolition	810,000	115	93,150,000	46,575
Gross total	3,560,000		103,206,250	51,603
Amount Recycled (50%)			51,603,125	25,802
Net total CDD generated			51,603,125	25,802

Table 3.11-2
Estimates of construction and demolition debris generated
at the Victory Center under Alternative B

Construction activity type	Area (ft ²)	CDD factor (lb/ft ²)	Estimated waste (lb)	Estimated waste (tons)
Construction (Office Space)	1,270,000	4.4	5,588,000	2,794
Construction (Parking Structure)		2.8		
Renovation	530,000	20	10,600,000	5,300
Demolition				
Gross total	1,800,000		16,188,000	8,094
Net total CDD generated			16,188,000	8,094

Table 3.11-3
Estimates of construction and demolition debris generated
at the Mark Center under Alternative C

Construction activity type	Area (ft ²)	CDD factor (lb/ft ²)	Estimated waste (lb)	Estimated waste (tons)
Construction (Office Space)	1,382,729	4.4	6,084,008	3,042
Construction (Parking Structure)	1,300,000	2.8	3,594,500	1,797
Renovation		20		
Demolition				
Gross total	2,682,729		9,678,508	4,839
Net total CDD generated			9,678,508	4,839

3.12 HAZARDOUS AND TOXIC MATERIALS

3.12.1 Affected Environment

Specific environmental statutes and regulations govern hazardous material and hazardous-waste management activities. For the purpose of this analysis, the terms *hazardous waste*, *hazardous materials*, and *toxic substances* include those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), or the Toxic Substances Control Act (TSCA). In general, they include substances that, because of their quantity, concentration, or physical, chemical, or toxic characteristics, might present substantial danger to public health or welfare or to the environment when released into the environment.

3.12.1.1 GSA Site

Storage and Handling Areas. The GSA site has two active petroleum underground storage tanks (USTs) totaling 16,000 gallons near Building B. The tanks are used for refueling vehicles. These tanks were installed in 1994 and replaced two previous tanks (Holland, 2007). Historically, 18 tanks are known to have been in place on the site. Two tanks near Building B were replaced with new tanks as discussed above. Twelve tanks were closed and removed during the 1990s. One tank was closed and left in place east of Building A. The locations of two other tanks are unknown or not confirmed to exist (Apex Environmental, 1994; Donatone, 2007). Only the UST closed and left in place east of Building A and a 275-gallon diesel aboveground storage tank (AST) in a fire pump house east of Building A are on the proposed BRAC 133 complex footprint portion of the GSA site (Apex Environmental, 1994; Donatone, 2007).

Hazardous Waste Disposal. GSA has three RCRA generator permits at its Springfield site. Building A operates under a large-quantity RCRA permit for the generation of more than 100 kilograms per month of hazardous waste (permit number VA4470039336). Other permits GSA holds are a conditionally exempt small-quantity RCRA permit issued for the generation of less than 100 kg per month of hazardous waste (VA0000058941) for Building B, and a small-quantity RCRA permit for the generation of 100 to 1,000 kilograms of hazardous waste per month (VA3470020006) for the “U.S. Logistics Operations Center” (VDEQ, 2007d). Permitted wastes include corrosive wastewater from electroplating operations and chlorinated and nonchlorinated solvents (USACE, 2007a). Hazardous waste is managed in accordance with local, state, and federal regulations. A manifest is prepared prior to shipping waste off-post for proper disposal. Building A does not have any hazardous waste accumulation points or 90-day hazardous waste storage areas (Holland, 2007).

In March 2005 VDEQ recorded 12 violations under the RCRA permit for Building A in a warning letter, including improper storage of waste materials. At one time materials identified as potentially hazardous that were left by previous building tenants were stored in Bay 25 in Building A. The materials were disposed of properly, and the violations were resolved by February 2007 (VDEQ, 2007d). There have been no other known RCRA corrective action orders, consent orders, or agreements for the site.

Site Contamination and Cleanup. In the 1990s, a program was initiated to conduct remedial action of petroleum-contaminated soils and groundwater from leaking underground gasoline and fuel oil storage tanks between Buildings A and B on the GSA site. Approximately 1,200 gallons of petroleum free product were removed from the groundwater and 13 million gallons of

groundwater were treated by 2000. The case was considered closed by VDEQ in June 2000 (Apex Environmental, 1994; Dames and Moore, 2000; VDEQ, 2000).

Until the early 1990s, electrical transformers were stored in a temporary storage area between Buildings A and B. Leaking transformers and spills from storage of fluids and equipment containing polychlorinated biphenyls (PCBs) resulted in elevated PCB levels in soils. By 1995, approximately 85 barrels of PCB-contaminated soil, 8,700 gallons of PCB-contaminated groundwater, and 42 tons of PCB-contaminated concrete were removed and disposed of in compliance with USEPA regulations (Law Engineering, 1992; RRDC, 1994; Richard, 1995). The transformers and storage building have since been removed. All other known PCB-containing electrical equipment has been removed from the GSA site (Donatone, 2007). Residual PCBs have been found on roof vault floors formerly containing transformers in Building A, but it not considered to be a health hazard (Biospherics, 1993). Although sampling of light ballasts has not found the presence of PCBs, it likely remains present in some older light ballasts and roof vault materials (ALTA, 1994).

Special Hazards: Radon. The GSA site is in EPA Radon Zone I, an area with a high potential for radon (average levels exceed 4.0 picocuries/liter, the USEPA radon standard) (USACE, 2007a). A radon survey was conducted for Building A on the GSA site in 1989 in which 311 samples were collected. None of the samples exceeded the USEPA standard (Biospherics, 1989a).

Special Hazards: Asbestos. Two categories are used to describe asbestos containing material (ACM). *Friable ACM* is defined as any material containing more than 1 percent asbestos (as determined by polarized light microscopy) that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. *Non-friable ACM* is material that contains more than 1 percent asbestos and does not meet the criteria for friable ACM.

ACM surveys and abatement projects on the GSA site have occurred on a periodic basis in advance of renovation work projects, but no comprehensive survey or abatement of the entire site has occurred. Site-specific surveys conducted in 1989, 1993, and 2001 identified ACM in floor tiles, mastic, heating ducts, cement board wall coverings, sealants, and roofing materials (Biospherics, 1989b; AMA, 1993; EMS, 1993; Tidewater, 2001). The surveys were conducted in bays 5, 7, and 8A in Building A and elsewhere on the GSA site. Another survey conducted in the administrative offices and two restrooms in Building A in 1998 did not find any ACM (AMA, 1998). Abatement projects occurred at the survey sites in 1993, 1994, and 2003 in which roofing material and wall and duct insulation containing ACM were removed (SaLUT, 1994; 2003). GSA personnel were not aware of any major existing ACM issues; however, it is likely that ACM remains in older building materials throughout the GSA site.

Special Hazards: Lead-based paint. GSA policy (GSA's *Environmental Management Technical Guide for Lead Based Paint* [E402.1097] and *Facilities Standards for the Public Buildings* [GSA, 2003]) regarding LBP is painted surfaces are tested for lead content when alteration or demolition requires sanding, burning, welding or scraping. When lead is found, controls required by the Occupational Safety and Health Administration (OSHA) in 29 CFR 1926.62 are implemented. The demolition and removal of architectural components would require that LBP be characterized and disposed of in accordance with applicable federal, state, and local solid waste management regulations. Lead-based paint on surfaces that are intact and in good condition are not abated during alteration or demolition unless required. LBP would be encapsulated and removed in accordance with OSHA guidelines, which cover contractor training, notification requirements, use of personal protective equipment, and approved disposal methods.

No LBP surveys have been conducted for Building A on the GSA site. LBP surveys were conducted in Buildings B and C in 1999. Samples were taken from ceiling sections and horizontal support beams at each warehouse. All the samples exceeded the U.S. Department of Housing and Urban Development's 0.5 percent lead content standards. Abatement of LBP at the warehouses was recommended (EMI, 1999). Documents indicate that abatement occurred in 2001 for affected areas (GSA, 2001). However, the extent of abatement is unknown. GSA personnel were not aware of any major existing LBP issues, but it is likely that LBP remains present in buildings throughout the GSA site.

Special Hazards: Pesticides. Because of the limited amount of suitable habitat for pests on the GSA site, pesticides are applied on an as needed basis. All pesticides are applied under the direction of federally-certified applicators, in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Noxious Weed Act. Pesticides used at the site include insecticides, fungicides, rodenticides, disinfectants, and plant growth regulators. Herbicides are used as needed to control weeds along sidewalks, curbs, parking lots, gutters, and substations. Pre-emergents are used as needed for weed control. Insecticides are usually used to control cockroaches, but other insects such as flies, spiders, ants, fleas, bees, wasps, ticks, beetles, and termites are treated as needed.

Chlordane may have been used on the GSA site for termite control before USEPA banned its use in 1988. Application of Chlordane is not considered a hazardous substance release if it was applied for its intended use as a pesticide, as opposed to disposal or release of discarded pesticide. There is no known site contamination on the GSA site associated with chlordane use.

Special Hazards: Mold. Mold and fungi are present almost everywhere in indoor and outdoor environments. They typically grow on common building components (e.g., walls, ventilation systems, support beams) that are chronically moist or water-damaged. Elevated fungal exposure in humans can result in flu-like symptoms, including runny nose, eye irritation, cough, congestion, and aggravation of asthma. Inhalation of fungal spores, fragments, or metabolites (e.g., mycotoxins and volatile organic compounds) from a wide variety of fungi can lead to or exacerbate allergic reactions, cause toxic effects, or cause infections. Although minor mold issues are likely present on the GSA site, particularly in roof support structures, no major mold issues have been reported.

Other Special Hazards. Other special hazardous materials such as medical waste and radioactive materials have not been known to be used on the GSA site.

3.12.1.2 Victory Center

Storage and Handling Areas. The Victory Center site does not have any active federally regulated USTs. A neutralization tank associated with a photo lab (discussed below) was located in a mechanical room until its removal in the late 1980s. No other historic tanks are known to have existed on the property (ESNR, 2004).

Hazardous Waste Disposal. Relatively small quantities of oil and used chemicals are used at the site. One 55-gallon drum labeled "Heat Transfer Fluid" was observed during a site visit in September 2007. No evidence of spills was noted on the site. Hazardous waste is managed in accordance with local, state, and federal regulations. A manifest is prepared prior to shipping waste off-post for proper disposal. There are no hazardous waste accumulation points on the site. At one time, the Victory Center was listed as a RCRA small-quantity generator based on the

generation of used oil and storage in a drum on site; however, used oil is no longer considered a hazardous waste in Virginia (ENSR, 2004).

Site Contamination and Cleanup. No evidence of site contamination requiring corrective action has been identified on the site. Tenants of the existing building on the site included a drop-off/pick-up dry cleaners (no dry cleaning operations were conducted at the site) as recently as 2004, and a photo lab that was present until the late-1980s. All equipment associated with the photo lab was removed and no other hazardous material or waste issues were identified with this former use. No evidence of PCBs, apart from fluorescent lights in the office building, has been recorded on the site. These older lights are expected to be replaced during renovation of the building. Pad-mounted transformers on the roof and at each end of the site are not known to contain PCBs, and no evidence of spills has been recorded (ENSR, 2004; 2007b).

Soil borings on the site indicated oil staining and arsenic and lead concentrations above Commonwealth of Virginia Voluntary Remediation Plan (VRP) Tier III Screening Levels. None of the groundwater samples collected from any of the soil borings exceeded USEPA Region 3 maximum contaminant levels. Metal concentrations in one of the soil borings submitted for testing were reported below laboratory detection limits and USEPA hazard characterization limits (ENSR, 2004).

Special Hazards: Radon. The Victory Center site is in EPA Radon Zone 2, an area with a moderate potential for radon (average levels exceed 4.0 picocuries/liter). A radon survey for the site in 1998 did not have any concentrations above this level, and 95 percent of radon tests recorded for Victory Center's zip code were below this level (ENSR, 2004).

Special Hazards: Asbestos. During a Phase I Environmental Site Assessment conducted in 2004 (when portions of the existing building on site were still in use), ACM sampling found asbestos in floor tile and mastic and black sealant on pipe and duct insulation (ENSR, 2004) in the existing building on the site. Roofing material was also suspected of containing asbestos. In 2006, asbestos abatement took place in the building, and ACM was characterized and disposed of as required in accordance with applicable federal, state, and local solid waste management regulations (ENSR, 2007a). The roof and interior fire doors are both being removed and replaced with new non-asbestos and code compliant materials during the ongoing building renovation (ENSR, 2007b). In February 2007, final air samples were collected and found to be below USEPA re-occupancy standards, indicating clean air (ENSR, 2007a).

Special Hazards: Lead-based paint. LBP surveys occurred during the Phase I Environmental Site Assessment and 121 sampling locations were identified to contain LBP, including exterior metal doors and hand rails (ENSR, 2004). These features are being replaced during the ongoing building renovation (ENSR, 2007b).

Special Hazards: Pesticides. Because of the limited amount of suitable habitat for pests on the Victory Center site, pesticides are applied on an as needed basis. All pesticides are applied under the direction of certified applicators in accordance with federal, state, and local regulations. Chlordane was likely historically applied on the site similar to use on the GSA site as described in Section 3.12.1.1.

Special Hazards: Mold. Although minor mold issues are likely present on the Victory Center site, no major mold issues have been reported.

Other Special Hazards. Other special hazardous materials such as medical waste and radioactive materials have not been known to be used on the Victory Center site.

3.12.1.3 Mark Center

Storage and Handling Areas. The Mark Center site does not have any active federally regulated USTs, and no historic ASTs or USTs were identified within the Mark Center footprint for BRAC 133. An active 900 gallon aboveground storage tank is located in a sealed room in the parking garage at 4850 Mark Center Drive. This AST is used to store diesel fuel to power two backup power generators. The generators and AST were installed in 2002 and are inspected and maintained regularly (Duke Realty, 2008). The adjacent property to the north of the footprint site was listed as having a leaking UST. The facility was granted a “closed” status in May 1998 by VDEQ. The potential for contamination originating at the northeast adjoining site to migrate to and impact the BRAC 133 footprint is low (ATC, 2005).

Hazardous Waste Disposal. Relatively small quantities of oil and used chemicals are used at the site (ATC, 2005). No evidence of spills was noted on the site during a site visit conducted on January 24, 2008. Hazardous waste is managed in accordance with local, state, and federal regulations. A manifest is prepared prior to shipping waste off-post for proper disposal. There are no hazardous waste accumulation points on the site.

Site Contamination and Cleanup. Review of available documents and the above-mentioned site visit were completed to identify any issues with the site. No evidence of site contamination requiring corrective action has been identified on the site. No evidence of PCBs has been recorded on the site. Pad-mounted transformers on the site are not known to contain PCBs, and no evidence of spills has been recorded (ATC, 2005).

Special Hazards: Radon. The Mark Center site is in EPA Radon Zone 2, an area with a moderate potential for radon (average levels are between 2.0 and 4.0 picocuries/liter). The proposed site has no recorded instance of radon exceeding 4 picocuries/liter (Duke Realty, 2008).

Special Hazards: Asbestos. The existing buildings within the Mark Center footprint were constructed after 2000, therefore construction materials did not contain asbestos (Duke Realty, 2008).

Special Hazards: Lead-based paint. The existing buildings within the Mark Center footprint were constructed after 2000, therefore construction materials did not contain lead-based paint (Duke Realty, 2008).

Special Hazards: Pesticides. Pesticides are applied on a routine basis. All pesticides are applied under the direction of certified applicators in accordance with federal, state, and local regulations (Duke Realty, 2008).

Special Hazards: Mold. Although minor mold issues may be present on the Mark Center site, no major mold issues have been reported.

Other Special Hazards. Other special hazardous materials such as medical waste and radioactive materials have not been known to be used on the Mark Center site.

3.12.2 Environmental Consequences

3.12.2.1 Alternative A: GSA Site

No effects on hazardous or toxic substances would be expected under the GSA site alternative. Before beginning the proposed action, the Army, BRAC 133 agencies, and their construction

contractors would develop an Environmental Management Plan (EMP) to ensure that all local, state, and federal environmental and health and safety regulations are followed.

No environmental or health effects resulting from the removal, handling, and disposal of hazardous materials would be expected during demolition, renovation, or construction activities. Before initiating renovation activities, the potential of environmental effects of special hazards such as ACM and LBP would be evaluated and addressed as specified in the EMP. Demolition that involves LBP or ACM would be evaluated by certified asbestos and lead contractors for compliance with the OSHA construction standards at 29 CFR 1926.62 and 29 CFR 1926.1101; USEPA standards; the EMP; and federal, state, local, and Army regulations. In addition, airborne concentrations of asbestos, should any additional sources be found during pre-demolition surveys, would be controlled by complying with these standards and applying BMPs during demolition. Surveys for lead would determine the need for abatement practices; if lead is not found in appreciable quantities by volume, materials containing lead could be disposed of in a manner similar to non-hazardous demolition debris. All potential PCB sources, including transformers and lighting ballasts may require additional sampling to determine PCB content before decommissioning and disposal. Construction debris containing ACM, appreciable amounts of lead and LBP, and PCBs would be disposed of at licensed disposal facilities in accordance with applicable laws. Confirmation sampling is recommended to verify that any residual PCB and petroleum contamination in soil and groundwater from previous contamination incidents and subsequent remediation activities are below regulatory levels.

Other potentially hazardous materials that could be found onsite during operational activities include paints, thinners, asphalt, and fuel and motor oils for vehicles and equipment. An increase in the volume of these wastes generated and the amount of storage required would be expected, but no adverse effects would be expected if all such materials are handled in accordance with established procedures and guidelines.

No effects from pesticide use would be expected. Pesticides from an approved products list would continue to be used at the site and would be applied in accordance with the EMP and local, state, and federal regulations. Pesticide residues, including those from chlordane, which might be present in the soils of lawns and maintained areas, are not considered a hazardous waste if the pesticides were used as products at their current location for the intended use.

No effects would be expected from hazardous waste disposal. With the implementation of the proposed action, hazardous waste disposal procedures would be in accordance with the EMP and local, state, and federal regulations.

No effects from mold would be expected by implementing this alternative.

3.12.2.2 Alternative B: Victory Center

Apart from potential residual PCB or petroleum contamination in soil or groundwater (there is no evidence of PCB or petroleum contamination at the Victory Center), effects would be similar to those for the GSA site. Due to presence of elevated levels in lead and arsenic in soils under the site, it is recommended that if any contaminated soil is disturbed during site construction activities, it should be characterized and properly disposed (ENSR, 2007b).

3.12.2.3 Alternative C: Mark Center

Apart from potential residual PCB or petroleum contamination in soil or groundwater (there is no evidence of PCB or petroleum contamination on the Mark Center BRAC 133 footprint), effects would be similar to those for the GSA site.

3.12.2.3 No Action Alternative

No adverse effects would be expected from the No Action Alternative. Current procedures would continue to be implemented in accordance with applicable laws.

3.12.3 BMPs/Mitigation

Apart from general BMPs listed in Table 3.14-1 in Section 3.14, no mitigation measures for hazardous and toxic materials would be required with the implementation of the proposed action.

3.13 CUMULATIVE EFFECTS

Cumulative effects are defined by Council on Environmental Quality (CEQ) in 40 CFR 1508.7 as the “impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions.”

3.13.1 Past Actions

3.13.1.1 Fairfax County

Fairfax County was formed in 1742 from the northern part of Prince William County. Located near Washington, DC, Fairfax County was an important region during the Civil War. The war greatly disrupted commercial activities in the county as both sides seized railroads and businesses, and raided and burned farms. Once the war came to an end in April 1865, the economic rebuilding of the county began, although Fairfax County remained mainly a rural, farm-oriented society until 1930, even while doubling its population. Increases in the size of the federal government that started in the 1930s with Franklin D. Roosevelt’s initiatives caused the pace of growth in the county to pick up. This continued through World War II and through the 1960s as the federal government expanded employment to meet the war emergency, the job needs of veterans, and the creation of more programs and bureaus. By 1970 Fairfax County’s total population stood at over 454,000. After this point much of the county’s growth was attributed to private economic interests. Corporations and industry groups felt a need for a presence in the Washington, DC, region, contributing to the county’s current estimated population of 1,041,200, making it by far the most populous county in Virginia. This substantial growth during the past 70 years has caused broad changes in Fairfax County. The county and the Springfield area has changed from a rural, agriculturally oriented society to an urban, business-oriented one. While this growth has altered the county’s lifestyle, it has also provided county residents with one of the highest standards of living in the world. The economy has also made Fairfax County one of the wealthiest counties in the nation.

3.13.1.2 City of Alexandria

The City of Alexandria is 15.4 square miles, bounded on the east by the Potomac River, on the north and northwest by Arlington County, and on the south by Fairfax County. The City has a

population of 128,284. Alexandria was founded in 1749 and named after the original land owner, Scotsman John Alexander. It was incorporated in 1779 and quickly became a port of entry for foreign vessels and a major export center for flour and hemp. In 1789, Alexandria and a portion of Fairfax County were ceded to the newly created District of Columbia. It remained under the control of the federal government until 1847 when it was retroceded to Virginia. During the Civil War several forts were constructed in Alexandria to aid in the defense of Washington, DC. In addition, Alexandria served as the capital of the Restored Government of Virginia, which represented the seven Virginia counties that remained under federal control during the war. Alexandria continued to be important to American war efforts. It was home to a torpedo factory that was operational during both world wars. Beginning in the 1960s, the city government began efforts to preserve the many historic buildings and structures located there. These have included forming the Old and Historic District and reusing the torpedo factory as a museum (City of Alexandria, 2007). Similar to Fairfax County, many corporations and industries related to the federal government are located in Alexandria.

3.13.2 Present and Future Actions

During the same timeframe as the BRAC 133 action, four major projects are approved or planned within one mile of the GSA site, three within one mile of Victory Center, and four within one mile of Mark Center (Alexandria Economic Development Partnership, 2005; City of Alexandria Department of Planning and Zoning, 2007; Fairfax County, 2007). Major projects were defined as those meeting a combination of the following criteria: minimum proposed new building square footages (about 100,000 square feet) and/or footprint acreages (about two acres), and projects that didn't simply involve renovation on already impervious surfaces within the same footprint. In addition, warehouse space located elsewhere, likely within the NCR, would need to be secured for GSA to house the materials currently stored in Building A if the GSA site was chosen to accommodate BRAC 133. Many other projects are small in scale and would have only a negligible effect on the environment as a whole. The larger projects are listed below.

Due to the potential effects of BRAC actions on Fairfax County, the County is proposing a BRAC Area Plans Review (APR). This BRAC APR is a public review process that will analyze how the effects of the increase of jobs at Fort Belvoir due to BRAC will affect housing, transportation, and public services, and create potential opportunities for new jobs, goods, and services. The analysis will then determine if the Fairfax County Comprehensive Plan requires amendment (Fairfax County, 2008).

3.13.2.1 Planned Actions near the GSA Site

Major approved or anticipated projects within one mile of the GSA site include the following (Fairfax County, 2007; USACE, 2007a):

- Boston Properties – A 520,000 square foot mixed use facility is proposed on a parcel immediately to the southeast of the GSA site, and a rezoning application is in process to expand the proposal.
- Springfield Mall Expansion – 82-acre mall to the north of the GSA site undergoing renovation and expansion, with construction starting in 2010. Vornado Realty Trust plans to add 1.1 million square feet of office space, 2 million square feet of retail, 2,000 residential units and a 225-room hotel (Lazo, 2007).
- Springfield Campus Elderly Housing and Nursing Facilities – 2,130,000 square foot facility proposed on vacant forested lot to the west of the site.

- National Geospatial-Intelligence Agency – 2,219,000 square foot facility on EPG, southwest of the GSA site.

3.13.2.2 Planned Actions near the Victory Center

Major approved projects within one mile of the Victory Center include the following (Alexandria Economic Development Partnership, 2005; City of Alexandria Department of Planning and Zoning, 2007):

- Cameron Station Phase VII – Mid-rise 148-unit apartment complex to be constructed to the north of the site.
- Cameron Station Phase VI – 97 townhouses to be constructed to the north of the site.
- All City Sports Facility – A 2,000 seat sports stadium proposed to the east of the site.

3.13.2.3 Planned Actions near the Mark Center

Major approved projects within one mile of the Mark Center include the following (Alexandria Economic Development Partnership, 2005; City of Alexandria Department of Planning and Zoning, 2007):

- Beauregard-Armistead Towns – 41 townhouses to be built on a 4-acre site east of Mark Center and I-395.
- Halstead Tower – 16-story condominium project with 173 units along the northern Alexandria border north of the site.
- Northampton Place – High-rise condominium project with 275 units along the northern Alexandria border north of the site.
- Landmark Mall – General Growth Properties – 51-acre mixed-use town center project with over 3 million square feet of new space southwest of the Mark Center site.

3.13.3 Resource Areas

3.13.3.1 Land Use

Long-term cumulative beneficial effects on land use would be expected from implementation of BRAC 133 at any of the alternatives evaluated. In addition to the placement of BRAC 133 at one of the three alternatives, there are a number of other projects in the area as identified above that are going through an approval process with local jurisdictions. It is expected that this approval process would verify that the projects are consistent with regional and local land use plans. The area already has a mixed-use makeup with large areas of commercial and residential zones. Although these new developments would increase the general density of the area, it would not be expected to have a significant adverse effect on its land use.

3.13.3.2 Transportation

The MWCOC regional travel demand model and Round 7 Cooperative Land Use Forecasts were used to develop future traffic volumes for the EA. The land use in the Round 7 data accounts for future growth, including population and employment estimates for the areas surrounding all the alternatives. Thus, any adjacent developments that occur prior to 2011 and that are included with the official land use numbers for the region were considered as part of the No Action Alternative for the purposes of assessing transportation effects. Major projects in the vicinity of the GSA site

that could potentially impact traffic flow include the Boston Properties development, the Springfield Mall redevelopment, and the Midtown Springfield redevelopment. These projects, if approved as currently envisioned, would drive the need for major transportation improvements, including the potential extension of Frontier Drive (as noted in Section 3.2), but would not be expected to result in significant adverse effects because the projects would fall in line with Fairfax County development goals.

Projects around the Victory Center and Mark Center are expected to have negligible effects to the transportation system.

3.13.3.3 Air Quality

Other construction and development projects would occur within the region, and each would produce some amount of air pollutants. The effects of all past, present, and reasonably foreseeable projects in the region and associated emissions are taken into account during the development of the SIP. This includes all projects including proposed development surrounding the proposed alternative sitings for BRAC 133 and BRAC-related activities at Fort Belvoir. Estimated emissions generated by all the alternatives would conform to the SIP or be *de minimis*. Therefore, by definition, the net effects of the BRAC 133 project (with mitigation as appropriate) in addition to all other collectively identified projects would not result in significant cumulative adverse air quality effects.

3.13.3.4 Noise

No long-term cumulative noise increases would be expected with any of the alternatives. Therefore, it is not anticipated that any of them would contribute to adverse cumulative effects to the noise environment.

3.13.3.5 Geology and Soils

No long-term cumulative effects on geology or soils would be expected with any of the alternatives. Therefore, it is not anticipated that any of them would contribute to adverse cumulative effects to the geology or soils.

3.13.3.6 Water Resources

Minor reductions in impervious surface cover under both the GSA and Victory Center alternatives would be expected to contribute to slight long-term beneficial effects on water resources. Other planned and proposed projects would continue the trend of increasing development in each watershed associated with these two alternatives, with associated long-term minor adverse cumulative effects. The BRAC 133 action would not be expected to contribute a significant proportion of the overall cumulative impact when combined with other planned and proposed construction and development projects in each of these two general areas. At the Mark Center site, increases in impervious land cover would occur with eventual build-out of Mark Center, whether or not the Army acquires the site for BRAC 133. The areas surrounding all 3 BRAC 133 alternative locations already consist of high concentrations of mixed commercial, industrial, and residential development. Adverse impacts from cumulative development on water resources most often would be associated with an increase in impervious land cover and associated increases in storm water runoff and nonpoint source pollution. Because the change in impervious land cover at the GSA site would be minor for BRAC 133, its contribution to overall water resource cumulative effects would not be expected to be significant. Under any of the three

alternatives, appropriate required storm water management practices and designs would be expected to be incorporated into development designs and followed during construction to minimize any adverse effects of increased storm water and nonpoint source pollution. The cumulative adverse effect of other projects proposed in these areas would be expected to be similarly minor.

3.13.3.7 Biological Resources

Long-term minor adverse cumulative effects would be expected on biological resources for any of the alternatives. Effects would not be expected to be significantly adverse because the proposed action, combined with other past, present, and future foreseeable actions, would not result in permanent loss of a substantial amount of forested areas, wildlife habitat, or wetlands relative to existing conditions in the region and no take of sensitive species would occur. Proposed projects in the vicinity of the GSA site, Victory Center, and Mark Center would slightly diminish the availability of forest and field habitats in this already developed area. The projects that would have the largest effect on cumulative biological resources would be the NGA facility on EPG and the Springfield Campus Elderly Housing and Nursing Facility to the southwest and west of the GSA site respectively, due to their size and their placement on areas that are currently partially forested (Fairfax County, 2007). In addition, a small wetland and riparian stream corridor between the GSA site and the Franconia-Springfield Metro station could be impacted by a shuttle bus connector road currently under construction between Springfield Center Drive and the Metro station as well as a proposed pedestrian walkway connecting these two points.

3.13.3.8 Cultural Resources

Use of the GSA site for the BRAC 133 initiative as well as other proposed developments in the region would result in increasing commuter and resident populations in the Springfield area. However, there are no National Register of Historic Places districts or properties within a one mile radius of the site that would be directly or indirectly affected by these population increases. Population growth in the NCR offers both advantages and disadvantages to historic sites, including increased tourism for sites with a public emphasis as an advantage and changes to the setting as well as demolition of historic sites as disadvantages. Minor adverse effects on the region's historic properties would be expected from cumulative projects through the associated increase in population density and pressure. However, the BRAC 133 initiative at the GSA site would not be expected to have a significant cumulative adverse effect on historic resources in the immediate project area.

Cumulative effects would be similar for use of the Victory Center or Mark Center sites for the BRAC 133 initiative as well as other proposed developments along Eisenhower Avenue for Victory Center or Seminary Road for Mark Center, which would result in increasing commuter and resident populations in the Alexandria area. These increases would have the potential to yield greater population use of the Alexandria Historic District, three miles east of both Victory Center and Mark Center, as well as many other historic properties in Alexandria that are listed on the National Register of Historic Places.

3.13.3.9 Socioeconomics

The BRAC 133 action, in conjunction with other economic development planned for the ROI such as other BRAC actions elsewhere in the NCR and the actions listed above in Section 3.13.2, would have short- and long-term beneficial effects on the regional economy in terms of employment, income, and business sales.

Minor, but not significant, adverse effects could result from the cumulative effect of increased population on the region's infrastructure. However, impacts from projected changes from Fort Belvoir BRAC actions, including BRAC 133, would be diminished by other BRAC actions occurring at the same time in the ROI. Jobs, and the people associated with those jobs, would be leaving the ROI due to other cumulative BRAC actions. Realignment or closure actions at the DoD's Arlington Service Center, Quantico, Andrews Air Force Base, and leased space in northern Virginia would result in about 14,500 jobs transferred out of the ROI (BRAC Commission, 2005). This would reduce or offset the population impacts from the proposed Fort Belvoir BRAC actions, including BRAC 133 (see Section 5.10 of the Fort Belvoir BRAC EIS). Families leaving the ROI due to these other BRAC actions (an estimated 35,900 persons, which includes about 12,700 school-age children) would reduce or offset the potential BRAC effects on schools. Personnel and their families leaving the ROI from other regional BRAC actions would offset the personnel and their families relocating within the region, reducing or offsetting potential effects on population and schools. In the case of Fairfax County, this is estimated to result in a net increase of 266 students (see Appendix F).

If the Victory Center or Mark Center sites were acquired by the Army for BRAC 133, lost tax revenue for the City of Alexandria would result due to the loss of a privately-owned, tax contributing parcel within City limits. The GSA site is a federal facility that currently does not contribute tax revenue to Fairfax County.

The GSA site is in a mixed-use development area near the Springfield Mall. BRAC 133 would be one of several projects that would contribute to revitalization of the Springfield Mall area (see Section 3.13.2). This area is already undergoing revitalization, with construction and operation of new shopping plazas and residential housing around the perimeter of the mall, and the proposed renovation of the mall itself. Although revitalization results in positive economic benefits, it can also cause housing price increases in the immediate vicinity, which could adversely affect low-income residents.

3.13.3.10 Aesthetics and Visual Resources

The portion of Fairfax County in the vicinity of the GSA site, as well as the areas of the City of Alexandria and Fairfax County around Victory Center and Mark Center, consist of large areas of residential and commercial development. This existing development combined with the cumulative projects would result in a long-term minor, but not a significant, cumulative adverse effect on the aesthetic integrity of these portions of Fairfax County and the City of Alexandria. The cumulative effect on aesthetics is due to the addition of more buildings in the area and a reduction in visual quality due to loss of forested areas.

3.13.3.11 Utilities

Short- and long-term minor, but not significant, cumulative adverse effects would be expected. Implementing any of the alternatives for BRAC 133 would result in short-term disconnections and reconnections of all buried and aboveground utility systems during the construction phase. Activities and building space constructed for the BRAC 133 action would result in a cumulative increase in demand on the existing utility infrastructure. This would require existing private and public providers of utility services in the area to increase the quantity of utility services provided to meet the demand from users directly and indirectly associated with the proposed action and its surroundings. These entities should review and revise the existing short- and long-term projections for providing adequate and reliable utility services for the area in the future.

The Energy Policy Act of 2005 (Public Law 109-58—August 8, 2005) stipulates that energy consumption per gross square foot of federal buildings in fiscal years 2006 through 2015 be reduced in comparison to the base year of 2003. The percentage reduction required in 2006 is two percent from the baseline consumption and 20 percent in 2015. This required reduction would mitigate some of the cumulative effects of the above on- and off-post construction.

The BRAC 133 action, together with other projects in the vicinity, would generate additional quantities of construction and demolition debris (CDD) and result in minor cumulative reduction of the lifespans of local area landfill sites.

3.13.3.12 Hazardous Waste

No long-term hazardous waste issues would be expected. Therefore, it is not anticipated that either alternative would contribute to adverse cumulative effects.

3.14 MITIGATION SUMMARY

Section 1508.20 of the Council on Environmental Quality's implementing regulations for NEPA define mitigation to include: (a) Avoiding the impact altogether by not taking a certain action or parts of an action, (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment, (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and (e) Compensating for the impact by replacing or providing substitute resources or environments.

BMPs for the proposed BRAC 133 project would be undertaken in accordance with existing regulations, policies, and guidelines. Such regulatory or policy-driven actions or sound engineering practices to reduce, avoid, or compensate for adverse effects would include, for example, following all applicable laws and regulations for handling all hazardous materials and wastes; implementing state-approved, BMPs for storm water control during construction; designing facilities according to the principles of low-impact development; recycling construction debris where possible; and revegetating disturbed sites. Sound engineering practices and BMPs, current and future, would be used to the maximum extent practicable to mitigate any adverse environmental impacts. A summary of BMPs is listed in Table 3.14-1.

Mitigation measures that the Army is considering to minimize, avoid, or compensate adverse environmental effects of implementing the proposed action are also listed in Table 3.14-1. Mitigation generally does not include legal, regulatory, or policy-driven environmental protections required to comply with federal and state laws or Army policies. Mitigation measures for transportation have been listed in Table 3.14-1 for all alternatives, and mitigation measures for air quality have been included for the GSA site alternative only. For the transportation mitigation measures, the Army would seek DAR certification to fund projects directly supporting the alternatives. If DAR certification were not received for all the projects, the Army would seek direct funding of the projects through the Congressional appropriation process. Without approval of the foregoing, the Army would not proceed with the GSA site alternative.

Table 3.14-1
Summary of BMPs and mitigation measures

Resource Area	BMPs	Mitigation
Land Use	All alternatives <ul style="list-style-type: none"> Follow DoD AT/FP standards during site design. Incorporate low impact development (LID) principles into site layout. 	<ul style="list-style-type: none"> None
Transportation	All alternatives <ul style="list-style-type: none"> Route and schedule construction vehicle traffic to minimize conflicts with other traffic. Strategically locate construction material staging areas to minimize traffic impacts. Incorporate traffic-calming measures (e.g., speed humps, raised crosswalks, center islands) in the vicinity of the site. Incorporate overall design improvements, such as walkways and bicycle paths, to reduce reliance on vehicles and to create more connected pedestrian-friendly communities. 	GSA site alternative <ul style="list-style-type: none"> Expand Metropolitan Center Drive to four lanes and expand GSA site entrance intersections with Loisdale Road to allow for turn movements. Construct a direct connection from the Franconia-Springfield Parkway via Spring Mall Drive to the GSA site, which would alleviate congestion on Loisdale Road. Improve the I-95 northbound to eastbound Fairfax County Parkway off-ramp/Loisdale Road intersection. Implement signal and turn lane improvements at surrounding intersections. Negotiate with adjacent property owners to allow BRAC 133 personnel to use proposed shuttle bus system and pedestrian walkway between Metropolitan Center Drive and Franconia-Springfield Metro station. Victory Center alternative <ul style="list-style-type: none"> Install a traffic signal for at least one Victory Center driveway location. Implement traffic signal timing and phasing modifications, along with turn lanes and other minor physical improvements, at intersections adjacent to the site. Mark Center alternative <ul style="list-style-type: none"> Improve Mark Center Drive to increase capacity Construct a third left turn lane from northbound Seminary Road to westbound North Beauregard Street. Construct a second left turn lane from westbound North Beauregard Street to Mark Center Drive. Construct a second right turn lane from Mark Center Drive to southbound Seminary Road

(continued below)

Table 3.14-1
Summary of BMPs and mitigation measures *(continued)*

Resource Area	BMPs	Mitigation
Transportation <i>(continued)</i>		All alternatives <ul style="list-style-type: none"> • Develop and staff a transportation management plan (TMP) to manage travel demand to the site and encourage use of transit by BRAC 133 personnel. • Encourage alternative transit measures, such as ridesharing, to offset parking space cap on site.
Air Quality	All alternatives <ul style="list-style-type: none"> • Use water or chemicals for dust control when demolishing existing buildings or structures, construction operations, grading roads, or clearing land. • Apply water or suitable chemicals on dirt roads, materials stockpiles, and other surfaces that could create airborne dust. • Pave roadways and maintain them in a clean condition. • Install and use hoods, fans, and fabric filters to enclose and vent the handling of dusty material, including the implementation of adequate containment methods during sandblasting or other similar operations. • Cover open equipment used to convey materials likely to create air pollutants. • Promptly remove spilled or tracked dirt from streets. • Sequence construction activities in a manner that would avoid multiple projects using heavy construction equipment on the same day. 	GSA site alternative <ul style="list-style-type: none"> • Limit construction on Code Orange, Red, and Purple ozone days. • Limit use of off-road trucks on the project site. • Require all off-road diesel equipment not meeting Tier 2 or better standards be retrofitted with emission control devices. • Implement anti-idling restrictions for both on-road and off-road vehicles and equipment. • Use Ultra-Low Sulfur Diesel (ULSD), alternate fuels, or fuel additives. • Meet new engine standards for off-road vehicles.
Noise	All alternatives <ul style="list-style-type: none"> • Limit construction activities to daylight hours. • Use sound-dampening construction equipment and materials to attenuate noise. • Maintain vegetative buffers for noise attenuation. 	<ul style="list-style-type: none"> • None
Geology and Soils	All alternatives <ul style="list-style-type: none"> • Use state-approved BMPs to reduce soil erosion and sedimentation. • Adhere to SWPPPs and any plans or guidance, as appropriate, per the NPDES General Permit and MS4 processes. 	<ul style="list-style-type: none"> • None

Table 3.14-1
Summary of BMPs and mitigation measures *(continued)*

Resource Area	BMPs	Mitigation
Water Resources	All alternatives <ul style="list-style-type: none"> • Implement BMPs to control surface erosion and runoff (e.g., silt fencing, hay bales). • Construct temporary construction sediment retention ponds as required. • Reseed and revegetate areas following construction activities to minimize effects. • Use LID practices where possible. • Follow protocols outlined in state sediment and erosion control guidelines. • Implement site-specific SWPPP in accordance with Fort Belvoir's storm water program and MS4 permit. 	<ul style="list-style-type: none"> • None
Biological Resources	All alternatives <ul style="list-style-type: none"> • Limit disturbed areas to the footprint plus a minimal amount of adjacent construction staging area. • Revegetate disturbed areas with native, indigenous vegetation. • Plant native trees and drought-tolerant vegetation near open spaces and around storm water management structures. • Limit land disturbance on each land parcel to no more than what is necessary for the desired use or development. 	<ul style="list-style-type: none"> • None
Cultural Resources	All alternatives <ul style="list-style-type: none"> • Implement stop work procedures to allow for documentation of findings if previously unknown archaeological resources are discovered during construction activities. 	<ul style="list-style-type: none"> • None
Socioeconomic Resources	All alternatives <ul style="list-style-type: none"> • Secure construction vehicles and equipment when not in use. • Place barriers and "No Trespassing" signs around construction sites where practicable. 	<ul style="list-style-type: none"> • None
Aesthetics and Visual Resources	All alternatives <ul style="list-style-type: none"> • Revegetate site with native vegetation. 	<ul style="list-style-type: none"> • None
Utilities	All alternatives <i>Potable water</i> <ul style="list-style-type: none"> • Train staff and contractors on water conservation measures. • Install water-efficient control devices, such as low-flow showerheads, faucets, and toilets, in all new facilities. <p><i>(continued below)</i></p>	<ul style="list-style-type: none"> • None

Table 3.14-1
Summary of BMPs and mitigation measures (continued)

Resource Area	BMPs	Mitigation
Utilities (continued)	<p>All alternatives (continued)</p> <p><i>Energy</i></p> <ul style="list-style-type: none"> • Install energy-efficient interior and exterior lighting fixtures and controls in all new units. All new units would be built to EnergyStar energy efficiency standards. Achieve the LEED Silver standard. • Promote energy conservation and reduced utility consumption through the utility program developed by the Army. <p><i>Solid waste disposal and recycling</i></p> <ul style="list-style-type: none"> • Train staff and contractors on materials eligible for recycling municipal solid waste. • Recycle construction and demolition debris to the maximum extent feasible. • Recycle municipal solid waste collected from office locations. 	
Hazardous and Toxic Substances	<p>GSA site alternative</p> <ul style="list-style-type: none"> • Implement measures to control airborne asbestos. • Conduct testing for petroleum and PCBs in soils and groundwater, and asbestos, LBP, and PCBs in structures, before construction activities begin, and address the presence of these contaminants in accordance with applicable local, state, and federal regulatory requirements. • Evaluate and dispose of demolition materials in accordance with applicable local, state, and federal regulations at the time of demolition. <p>All alternatives</p> <ul style="list-style-type: none"> • Store all hazardous material in accordance with regulations and implement a Hazard Communication Program that will include training personnel in proper handling of hazardous materials. • Document all hazardous material to be used and maintain copies of Material Safety Data Sheets (MSDS). • Ensure hazardous wastes are removed and properly disposed of in accordance with applicable local, state, and federal regulations. • Establish smoking areas and prohibit open flames near flammable material. 	<ul style="list-style-type: none"> • None

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SECTION 4.0

CONCLUSIONS

This EA has been prepared to evaluate the potential effects on the natural and human environment from activities associated with implementation of the BRAC Commission's recommendations pertaining to BRAC 133. The EA has examined the Army's three alternatives and the No Action Alternative.

The EA has evaluated potential effects on land use, transportation, air quality, noise, geology and soils, water resources, biological resources, cultural resources, socioeconomics (including environmental justice and protection of children), aesthetic and visual resources, utilities, and hazardous and toxic substances.

Evaluation of the proposed action for all the alternatives indicates that the physical and socioeconomic environments at the GSA site, Victory Center, Mark Center, and cumulatively in the ROI would not be significantly affected by the long-term and/or permanent effects from the proposed action. The predicted consequences on resource areas are briefly described below. Table 4-1 provides a summary and comparison of the consequences of each alternative as well as the No Action Alternative.

4.1 SUMMARY OF CONSEQUENCES

4.1.1 Alternatives A (GSA Site), B (Victory Center), and C (Mark Center)

4.1.1.1 Land Use

Long-term negligible to minor but not significant adverse and beneficial effects on land use would be expected for the GSA site and no effects would be expected for the Victory Center or Mark Center from implementation of BRAC 133. The long-term adverse effects under the GSA alternative would be associated with the amount of square footage needed for BRAC 133, which would exceed the 1.2 million ft² called for under Fairfax County's Comprehensive Plan guidelines, but its proposed multiple buildings of up to 15 stories would be consistent with the character of commercial land uses in Springfield. For the Victory Center and Mark Center alternatives, the BRAC 133 office complex would be consistent with the current municipal zoning and existing commercial office space themes of the sites. The current building at the Victory Center would be hardened to meet the required distance to unsecured roadways required under AT/FP requirements. Any of the alternatives would require consistency with NCPC guidelines prior to implementation. Based upon the information, data, and analysis as contained in this EA, the Army determined that the proposed action is consistent to the maximum extent practicable with the enforceable policies of the VCP.

4.1.1.2 Transportation

Long-term minor adverse effects on transportation under the GSA site, Victory Center, and Mark Center alternatives would be expected due to BRAC 133. Implementation of the potential transportation improvements that have been identified in conjunction with the proposed action would not result in significant adverse environmental effects. Improvements were identified at locations where the LOS would drop two grades or reach LOS F as a result of the proposed

Table 4-1
Summary of potential environmental and socioeconomic consequences

Environmental and Socioeconomic Consequences				
Resource Area	GSA Site	Victory Center	Mark Center	No Action Alternative
Land Use	Long-term negligible to minor adverse and beneficial; not significant	No effects	No effects	No effects
Transportation	Long-term minor adverse; not significant	Long-term minor adverse; not significant	Long-term minor adverse; not significant	No effects
Air Quality	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant	No effects
Noise	Short-term minor adverse and long-term negligible adverse; not significant	Short-term minor adverse and long-term negligible adverse; not significant	Short-term minor adverse and long-term negligible adverse; not significant	
Geology and Soils				
Geology/Topography	No effects	No effects	No effects	No effects
Soils	Short-term minor adverse	Short-term minor adverse	Short- and long-term minor adverse; not significant	No effects
Prime Farmland	No effects	No effects	No effects	No effects
Water Resources				
Surface Water and Groundwater	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse; not significant	No effects
Floodplains, Coastal Zone	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse; not significant	No effects
Biological Resources				
Vegetation	No effects	No effects	Long-term minor adverse; not significant	No effects
Wildlife	Short- and long-term negligible adverse; not significant	Short- and long-term negligible adverse; not significant	Short- and long-term negligible to minor adverse; not significant	No effects
Threatened and Endangered Species	No effects	No effects	No effects	No effects
Wetlands	No effects	No effects	No effects	No effects
Cultural Resources	No effects	No effects	No effects	No effects
Socioeconomics				
Economic Development	Short- and long-term minor beneficial	Short- and long-term minor beneficial	Short- and long-term minor beneficial	No effects
Housing	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Law Enforcement, Fire Protection, and Medical Services	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Schools	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant	Short- and long-term minor adverse; not significant	No effects
Services, Shops, and Recreation	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects

Table 4-1
Summary of potential environmental and socioeconomic consequences (continued)

Environmental and Socioeconomic Consequences				
Resource Area	GSA Site	Victory Center	Mark Center	No Action Alternative
<i>Socioeconomics (continued)</i>				
Environmental Justice	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Protection of Children	No effects	No effects	No effects	No effects
Aesthetics and Visual Resources	Short-term minor adverse and long-term minor beneficial	Short-term minor adverse and long-term minor beneficial	Short- and long-term minor adverse	No effects
Utilities	Short-term minor adverse	Short-term minor adverse	Short-term minor adverse	No effects
Hazardous and Toxic Substances	No effects	No effects	No effects	No effects

action. These improvements were then grouped as site access, improvements to the local roads, and improvements to the regional transportation infrastructure. The local improvements at all three sites that would be required to return to and maintain the LOS would specifically complement the proposed action and include the addition of turn lanes, the installation or modification to traffic signals, and revised signing and marking to improve traffic flow. At a regional level, the impacts from the proposed action are relatively minor when compared to the current plans for the areas surrounding each site. All the alternatives, however, would contribute to the need for improvements to the surrounding transportation systems. The GSA site alternative would be directly responsible for the widening of Metropolitan Center Drive and the improvements to the intersections of Metropolitan Center Drive with Loisdale Road. Conversely, the Victory Center and Mark Center have been approved for redevelopment by the City of Alexandria and will be occupied with or without BRAC 133. Additional access to both sites is already part of regional plans, and fewer additional transportation mitigation measures are required, making these sites available and more suitable from a transportation perspective for occupation by BRAC 133. Development at all three sites conforms to regional planning, and transportation improvements considered necessary to support the developments have been identified. Over the next ten years, it is likely that all three sites will be developed regardless of the decision on where to site BRAC 133. Needed or desired improvements are at varying stages in the project development, approval, and funding process. The Army would seek DAR certification to fund transportation improvement projects directly supporting the GSA site alternative. If DAR certification were not received for all the projects, the Army would seek direct funding of the projects through the Congressional appropriation process. Without approval of the foregoing, the Army would not proceed with the GSA site alternative. These improvements at the Victory Center and Mark Center sites would be included as part of proffers for development of those sites. The Army would also seek to secure shuttle bus service from the Mark Center to Metro stations. A transportation mitigation measure for all the alternatives is promotion of alternative transit measures such as ridesharing to offset a parking space cap on-site. These measures would be discussed in a Transportation Management Plan (TMP) to be implemented as part of the proposed action.

4.1.1.3 Air Quality

Short- and long-term minor but not significant adverse effects on air quality would be expected under all the alternatives. For the GSA site alternative, estimated air emissions from the proposed action were analyzed under the City Center Alternative in the Fort Belvoir BRAC GCD published in July 2007. Under the GSA site alternative being analyzed in this EA, the building size is smaller and construction schedule is unchanged when compared to the Fort Belvoir BRAC GCD. It would be expected that the emissions impact associated with this alternative would be less than that described in the GCD. Unlike the GSA site alternative, the Victory Center and Mark Center alternatives were unforeseeable alternatives at the time the Fort Belvoir BRAC GCD was written and therefore are distinctly different activities from the situation outlined in the GCD. Increases in emissions under these two alternatives would be *de minimis*, would not introduce localized CO concentrations greater than the NAAQS, and would not be expected to contribute to a violation of any federal, state, or local air regulations. Therefore a RONA is appropriate for these alternatives.

4.1.1.4 Noise

Short-term minor and long-term negligible adverse effects on the noise environment would be expected under any of the alternatives. Long-term adverse effects would not be expected to be significant as long-term operational noise levels from the BRAC 133 complex would be consistent with typical administrative facilities and would remain below local noise ordinance levels. The short-term increase in noise would result primarily from the use of heavy construction equipment. Long-term negligible adverse effects could also occur due to noise from continued operational and RIF activities from implementation of BRAC 133, similar to existing warehouse traffic and truck deliveries on the GSA site.

4.1.1.5 Geology and Soils

No effects on geology, topography, or prime farmlands would be expected. Short-term minor adverse effects on soils would be expected from construction activities under any of the GSA site, Victory Center, or Mark Center alternatives, and long-term minor adverse effects on soils would occur from increased sedimentation due to a greater amount of runoff from an increase in impervious surfaces under the Mark Center alternative. However, adverse effects would not be significant as adherence to state erosion control guidelines and the use of BMPs and existing downstream storm water and sediment control facilities would occur.

4.1.1.6 Water Resources

Short-term minor adverse and long-term minor beneficial effects on surface waters, groundwater, floodplains, and the coastal zone would be expected under either the GSA site or Victory Center alternatives, and short- and long-term minor but not significant adverse effects would be expected under the Mark Center alternative. Short-term minor adverse effects due to increased sediment in runoff could occur during land disturbance activities associated with construction and demolition activities and redevelopment. Such effects would be minimized through the use of construction-specific BMPs and development of site-specific plans for sediment and erosion control and storm water runoff during construction. The GSA site and Victory Center alternatives would have long-term beneficial effects resulting from minor reductions in impervious surfaces following redevelopment of each site and implementation of storm water management and control plans and procedures. The Mark Center alternative would have long-term minor adverse effects from

increased runoff as a result of a greater amount of impervious surfaces associated with development of the area from forested land to an office park. However, effects would not be expected to be significantly adverse because of the use of BMPs and storm water pollution prevention planning, adherence to state erosion control guidelines, and implementation of storm water and water quality management plans such as described in the approved preliminary site development plans. Such practices would be expected to result in no violations of water quality standards and no substantial detrimental effect on downstream biological resources.

4.1.1.7 Biological Resources

Short- and long-term negligible adverse effects on wildlife would be expected for both the GSA site and Victory Center alternatives, and short- and long-term negligible to minor adverse effects would be expected for the Mark Center alternative. Effects would not be expected to be significantly adverse because no permanent loss of a substantial amount of forested areas, wildlife habitat, or wetlands relative to existing conditions in the region and no take of sensitive species would occur. Construction activities could cause noise that would have a short-term minor adverse effect on wildlife, and long-term negligible to minor adverse effects could be expected to wildlife due to noise from increased operational and RIF activities, primarily related to traffic and truck deliveries. On the GSA site, the few trees in the proposed construction footprint would be avoided or their loss offset by the addition of new landscaping features added throughout the site. Long-term minor adverse effects to vegetation on the Mark Center would be expected from removal of much of the forested areas in the BRAC 133 footprint with a central area remaining forested with landscaped trees. Long-term minor adverse effects to wildlife on and adjacent to the Mark Center would be expected because of loss of habitat due to the planned development and because of noise from increased operational activities related to traffic and truck deliveries. There would be no effects on sensitive species or wetlands as none are present in the footprints of any of the alternatives, and onsite BMPs would help protect riparian areas, water quality, and other resources, notably the Anadromous Fish Use Areas on Accotink Creek and Cameron Run.

4.1.1.8 Cultural Resources

No effects on cultural resources would be expected under any of the alternatives, pending potential re-survey of the Mark Center BRAC 133 footprint for archaeological resources and review and verification by Alexandria Archaeology and the Virginia SHPO. Should BRAC 133 proceed with the Mark Center alternative, the re-survey would be performed by the current owner of the Mark Center property. No archaeological sites were identified in the footprint in a 1994 Phase I archaeological survey. No Traditional Cultural Properties (TCPs), Native American sacred sites, or burials are known to exist on or near any of the alternative sites. All the sites have been evaluated for historic and archaeological resources, and none were identified. The potential for effects on unknown cultural and historical resources is always present, but adherence to policies and guidelines in Army regulations and consultation with the SHPO would be conducted as necessary to avoid potential adverse effects.

4.1.1.9 Socioeconomics

Short- and long-term minor adverse effects as well as short- and long-term minor beneficial effects on socioeconomics would be expected to occur from implementation of any of the alternatives. All jurisdictions within the ROI would experience less than a 1 percent increase above current population projections, so these potential population changes would be considered minor but not significantly adverse. The worst-case scenario of the relocation of half of the

BRAC 133 employees within the ROI would have short-term minor adverse effects on housing, law enforcement, fire protection, medical services, family support, social services, shops and services, and recreation until municipal and private sector services would be able to respond to an increase in population in the area with increases in these services. It must be noted that the 6,409 employees in the BRAC 133 jobs represent a portion of the total 19,300 jobs being realigned to Fort Belvoir, and analysis conducted for the entire Fort Belvoir BRAC action (see Section 4.10.2 of the Fort Belvoir BRAC EIS). The increase in population in the ROI for any of the alternatives could also have short- and long-term minor adverse effects on schools due to an increase in students, and that increase is a portion of the schools analysis conducted in the Fort Belvoir BRAC EIS (USACE, 2007a). However, an employee's decision to move would depend on many factors such as commuting time, changing a child's school, or the cost of moving. Where an employee might decide to move is primarily dependent upon available housing and influenced by housing market conditions, the cost of housing, and household income. Construction of new housing would depend on the available land and whether or not the local county or city governments would permit the new housing to be built. Similarly, determining need for school capacity is a function of zoning and planning that ensures capacity in a given neighborhood is consistent with the amount of available housing in that neighborhood, regardless of where the residents themselves may be employed. The employees and their families moving in likely would not reside in a single location, but would be distributed across the ROI, characteristic of the NCR where federal employees, whose jobs are concentrated in various work centers, live throughout the ROI. It should also be noted that jobs would leave the ROI due to other cumulative BRAC actions, which would reduce potential effects from Fort Belvoir BRAC actions, including BRAC 133. In the case of Fairfax County, this is estimated to result in a net increase of 266 students across the County (see Section 3.13.3.9). Personnel and their families leaving the ROI from other regional BRAC actions would offset the personnel and their families relocating within the region, reducing or offsetting potential effects on population and schools.

All of the alternatives would have short- and long-term minor beneficial effects on economic development related to construction activities on the sites and the draw of ancillary businesses to the area. Short-term minor adverse effects would be expected on environmental justice populations to noise from construction activities under all the alternatives, and no effects on protection of children would be expected under any of the alternatives.

4.1.1.10 Aesthetics and Visual Resources

Short-term minor adverse and long-term minor beneficial effects on aesthetics and visual resources would be expected under the GSA site and Victory Center alternatives, and short- and long-term minor adverse effects would be expected under the Mark Center alternative. Effects would not be expected to be significantly adverse because no alteration or impairment of visual quality not consistent with federal, regional, state, and local planning and zoning guidelines would occur. Adverse effects would occur from construction activities, which can be inherently displeasing. Development of an office complex for BRAC 133 would improve aesthetic quality at the GSA site from the current commercial/light industrial warehouse use. The renovation, new construction, and new landscaping associated with the developments would be expected to improve long-term aesthetic quality under the GSA site and Victory Center alternatives. Due to the moderate aesthetic quality of the existing Mark Center site due to vegetative cover and landscaping, the construction of additional office buildings would be expected to have a long-term minor adverse effect on the aesthetic quality of the site.

4.1.1.11 Utilities

Short-term minor adverse effects on utilities would be expected under any of the GSA site, Victory Center, or Mark Center alternatives. Short-term minor adverse effects would be the result of service interruptions during construction while new and renovated facilities are being hooked up to existing utilities systems.

4.1.1.12 Hazardous and Toxic Substances

No effects on hazardous or toxic substances would be expected under any of the alternatives.

4.1.1.13 Cumulative Effects

Short- and long-term minor but not significant adverse cumulative effects would be expected for any of the alternatives. These would be associated with the varied development projects occurring in the ROI during the BRAC timeframe.

4.1.2 No Action Alternative

No effects on any of the resource areas considered in this EA would be expected to result from implementation of the No Action Alternative. BRAC 133 would not occur; therefore, effects otherwise expected from its implementation would not happen.

4.2 CONCLUSIONS

Based on the analysis performed in this EA, implementation of the proposed action under the GSA site, Victory Center, or Mark Center alternatives would have no significant direct, indirect, or cumulative effects on the quality of the natural or human environment. Preparation of an EIS is not required. Issuance of a Finding of No Significant Impact (FNSI) would be appropriate.

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- Aerosol Monitoring and Analysis (AMA), Inc. 1993. *Assessment and Bulk Sampling for ACM*. Prepared for GSA. March 18.
- Aerosol Monitoring and Analysis (AMA), Inc. 1998. *Survey Report on Asbestos-Containing Materials (ACM)*. Prepared for GSA. February 19.
- Alexandria Economic Development Partnership, Inc. 2005. *Projects of Interest in Alexandria, Virginia*. September.
- ALTA Resource Management Services, Inc. (ALTA). 1994. *Ballast Testing Protocols*. Prepared for GSA. January 27.
- American National Standards Institute (ANSI). 2003. *American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound. Part 3: Short-term measurements with an observer present*.
- Apex Environmental, Inc. 1994. *Site Characterization for the Parr Warehouse, Franconia, Virginia*. Prepared for the General Services Administration. July.
- ATC Associates, Inc. 2005. *Phase I Environmental Site Assessments of 4825, 4830, 4840, 4845, 4860, and 4865 Mark Center Drive*. Prepared for the Mark Winkler Company. October.
- Baker, Ray. 2007. *Personal Communication with Ray Baker, Washington Gas*. October.
- Belvoir New Vision Planners (BNVP). 2007. *WHS/BRAC 133 – GSA Site Study*. Prepared for U.S. Army Corps of Engineers Baltimore District. October 5.
- Biospherics, Inc. 1989a. *Radon-In-Air Monitoring, GSA Storage Depot, Franconia, Virginia*. Prepared for GSA. August.
- Biospherics, Inc. 1989b. *Asbestos Sampling, Franconia A Building*. Prepared for GSA. December.
- Biospherics, Inc. 1993. *PCB Sampling, Franconia A Building*. Prepared for GSA. February.
- Bromberg, Francine. 2006. *Completion of Archaeological Assessment for 5001 Eisenhower Avenue (Victory Center), DSP2004-00037*. Alexandria Archaeology. December 28.
- Bureau of Economic Analysis (BEA). 2007a. *Total Full-time and Part-time Employment by Industry*. <<http://www.bea.gov/bea/regional/reis/>>. Accessed September 2007.
- Bureau of Economic Analysis (BEA). 2007b. *Local Area Personal Income and Population*. <<http://www.bea.gov/bea/regional/reis/>>. Accessed September 2007.
- Bureau of Labor Statistics (BLS). 2007. *Local Area Unemployment Statistics*. <<http://www.bls.gov/lau/home.htm#data>>. Accessed September 2007.

- City of Alexandria. 2001. *City of Alexandria Master Plan, Water Quality Management Supplement*. Department of Transportation and Environmental Services. Adopted January 13, 2001. http://alexandriava.gov/tes/DEQ/watershed_management_home.html and http://alexandriava.gov/tes/eq/pdf/alexandria_water_quality_master_plan.pdf. Accessed August 2007.
- City of Alexandria. 2004a. *Air Quality Compliance at the Covanta Alexandria/Arlington Waste-to-Energy Facility*. s.l. : Department of Transportation & Department of Environmental Services.
- City of Alexandria. 2004b. *RPA Buffer Map – Adopted by City Council June 12, 2004*. <http://alexandriava.gov/tes/DEQ/pdfs/FinalRPAMap.pdf> downloaded from <http://alexandriava.gov/tes/DEQ/cbresourceareas.html>. Accessed September 2007.
- City of Alexandria. 2007. *Alexandria's History*. <http://alexandriava.gov/city/about-alexandria/about.html>. Accessed October 12.
- City of Alexandria Department of Planning and Zoning. 2007. *City of Alexandria Planning Initiatives and Development Projects*. <<http://gis.alexandriava.gov/development/viewer.htm>>. Accessed October 2007.
- City of Alexandria Website. 2008. *City of Alexandria, Virginia Fire Department*. <<http://alexandriava.gov/fire/info/default.aspx?id=4912>>. Accessed October 2007 and February 2008.
- Council on Environmental Quality (CEQ). 1997. *Environmental Justice Guidance Under the National Environmental Policy Act*. Council on Environmental Quality, Executive Office of the President, Washington, D.C.
- Cressey, Pam. 1994. *Letter sent to William Nussbaum of the Mark Winkler Company regarding the archaeological survey of the Mark Center property*. Prepared by Alexandria Archaeology. June 22.
- Cressey, Pam. 2008. *Personal Communication with Dr. Pam Cressey, City Archaeologist, Alexandria Archaeology, Alexandria, Virginia*. March 6.
- Dames and Moore. 2000. *Request for Closure Letter to VDEQ, Case PC NO. 90-1665*. May 20.
- Dawson, Jerry. 2008. *Personal Communication with Jerry Dawson, Duke Realty Corporation, Regarding Mark Center Utilities*. April.
- Defense Base Closure and Realignment (BRAC) Commission. 2005. *2005 Defense BRAC Commission Report to the President, Volumes 1 and 2*. Defense Base Closure and Realignment Commission, Arlington, Virginia.
- Department of the Army. 2007. *Letter from Fort Belvoir to Dr. Jack Dale, Superintendent, Fairfax County Public Schools, Regarding Impacts to Schools from BRAC*. September 4.
- Department of Defense (DoD). 2005. *Military Students on the Move: A Toolkit for School Leaders*. <<http://www.militarystudent.dod.mil/>>. Accessed May 2006.

- Department of Defense (DoD). 2007. *Unified Facilities Criteria 4-010-01, DoD Minimum Antiterrorism Standards for Buildings*. <http://www.wbdg.org/ccb/DOD/UFC/ufc_4_010_01.pdf>. Accessed January 2007.
- Department of Energy (DOE). 1999. *Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, Commercial Buildings Energy Consumption Survey*.
- Department of Justice–Federal Bureau of Investigation (DOJ–FBI). 2006. *Crime in the United States 2004*. Uniform Crime Reporting Program. <http://www.fbi.gov/ucr/cius_04>. Accessed July 2006.
- Donatone, J.R. 2006. *Interview with J.R. Donatone, GSA Metropolitan Service Center (Franconia Site) Buildings Management Office*. November.
- Donatone, J.R. 2007. *Interview with J.R. Donatone, GSA Metropolitan Service Center (Franconia Site) Buildings Management Office*. September 20.
- Duke Realty Corporation. 2008. *BRAC 133 Site Alternatives Environmental Questionnaire Responses for the Mark Center*. Prepared for the USACE Baltimore District. February.
- Eisenhower Real Estate Holdings, LLC. 2007. *Preliminary Site Plan Application Re-Submission*. Original submitted August 1, 2005; resubmitted in July 2007.
- ENSR Corporation (ENSR). 2004. *Phase I Environmental Site Assessment, Army Materiel Command Center, Alexandria, Virginia*. Prepared for Spaulding and Slye, LLC. April.
- ENSR Corporation (ENSR). 2007a. *Asbestos Abatement Final Compliance Report (for Victory Center)*. Prepared for Jones Lang LaSalle, Inc. February.
- ENSR Corporation (ENSR). 2007b. *Phase I Environmental Site Assessment Update of Victory Center, Alexandria, Virginia*. Prepared for Eisenhower Real Estate Holdings, LLC. October.
- Enviro Management Inc. (EMI). 1999. *Sampling of Lead-Based Paint*. October 22.
- Environmental Management Systems (EMS), Inc. 1993. *Asbestos Inspection and Testing, General Services Administration Supply Depot, Franconia, Virginia*. EMS, McLean, Virginia.
- Fairfax County. 2002. *Topographic Map Sheets 81-2, 82-1, and 90-2*. Department of Information Technology, Enterprise Application Services Division, Geographic Information Services, Fairfax County, Virginia, <http://www.fairfaxcounty.gov/gisapps/pdfviewer/>. Accessed September 2007.
- Fairfax County. 2005. *Chesapeake Bay Map Sheets 81-2, 82-1, 90-4, and 90-4*. Department of Information Technology, Enterprise Services Division, Geographic Information Services, Fairfax County, Virginia. <<http://www.fairfaxcounty.gov/gisapps/pdfviewer/>>.
- Fairfax County. 2006. *Fairfax County Comprehensive Plan: 2007 edition, Franconia-Springfield Area*. September 11.
- Fairfax County. 2007. *Listing of Proposed Projects in Vicinity of Fort Belvoir, Virginia*. Provided by Fairfax County Department of Planning and Zoning. October.

- Fairfax County. 2008. *2008 BRAC Area Plan Review Webpage*. <<http://www.fairfaxcounty.gov/dpz/apr/brac/>>. Accessed March 2008.
- Fairfax County Department of Public Works and Environmental Services (DPWES). 2001. *Fairfax County Stream Protection Strategy Baseline Study*. Stormwater Management Branch, Stormwater Planning Division, Department of Public Works and Environmental Services. Published January 2001. <http://www.fairfaxcounty.gov/dpwes/environmental/sps_main.htm> and <http://www.fairfaxcounty.gov/dpwes/environmental/sps_pdf.htm>. Accessed September 2007.
- Fairfax County Department of Public Works and Environmental Services (DPWES). 2006. *Annual Report on Fairfax County's Streams*. Stormwater Planning Division, Department of Public Works and Environmental Services. Published October 2006. <<http://www.fairfaxcounty.gov/dpwes/stormwater/streams/streamreports.htm>>. Accessed September 2007.
- Fairfax County Fire and Rescue. 2007. *Fairfax County Fire and Rescue—Stations and Facilities*. <<http://www.fairfaxcounty.gov/fr/deptinfo/stations.htm>>. Accessed October 2007.
- Fairfax County Geographic Information Systems (GIS). 2006. *Geographic Information Systems Data for Fairfax County, Virginia*. Provided by the Fairfax County GIS & Mapping Department.
- Federal Emergency Management Agency (FEMA). 1990. *FIRM Flood Insurance Rate Map, Fairfax County, Virginia, Unincorporated Areas, Panel 150 of 150, Community-Panel Number 515525 0150 D*. Map revised March 5, 1990. <<http://msc.fema.gov>>. Accessed September 2007.
- Federal Emergency Management Agency (FEMA). 1991. *FIRM Flood Insurance Rate Map and Street Index, City of Alexandria, Virginia, Independent City, community-Panel Number 515519 0005 D*. Map revised May 15, 1991. <<http://msc.fema.gov>>. Accessed September 2007.
- Federal Highways Administration (FHWA). 2006. *Interim Guidance on Air Toxic Analysis in NEPA Documents*.
- Field, Mark. 2007. *Personal Communication with Mark Field, Project Manager, Jones Lang LaSalle*. October.
- General Services Administration (GSA). 2001. *Pre and Post-Award Lead-Based Paint Resubmittals Memo*. August 2.
- Geo-Sci Consultants. 2006. *Pedological/Geomorphological Study Report, 5001 Eisenhower Avenue/Victory Center*. Prepared for Louis Berger Group, Inc. October 16.
- Harris, Cecil M. 1998. *Handbook of Acoustical Measurement and Noise Control*.
- Hill International, Inc. 1992. *Report of Site Contamination Assessment, Parr Warehouse, Franconia, Virginia*. Prepared for GSA.

- Holland, Kelly. 2007. *Interview with Kelly Holland, GSA Safety Office, Washington, D.C.* October 23.
- ICF Kaiser Engineers. 1989. *Phase I Draft Site Assessment - Parr Warehouse.* November 15.
- InfoMap Technologies, Inc. 2007a. *Environmental FirstSearch Report: GSA Site, Springfield, Virginia. Job no. 14325-04J3.* InfoMap Technologies, Inc., West Chester, Pennsylvania. September.
- InfoMap (InfoMap Technologies, Inc.). 2007b. *Environmental FirstSearch Report: Victory Center Site, Alexandria, Virginia. Job no. 20878-01.* InfoMap Technologies, Inc., West Chester, Pennsylvania. September.
- International Archaeological Consultants. 1994. *An Archaeological Investigation of the Undeveloped Upland Terraces in Mark Center, City of Alexandria, Virginia.* International Archaeological Consultants, Rawlins, Wyoming. Prepared for the Mark Winkler Company.
- Jones Lang LaSalle. 2008. *BRAC 133 Site Alternatives Environmental Questionnaire Responses for the Victory Center.* Prepared for the USACE Baltimore District. February.
- Koppenhaver, Mark. 2008. *Personal Communication with Mark Koppenhaver, Duke Realty Corporation, Regarding Mark Center Utilities.* April.
- Law Engineering. 1992. *Report of Site Contamination Assessment, Parr Warehouse, Franconia, Virginia.* Prepared for the General Services Administration. October.
- Lazo, Alejandro. 2007. *Army's Arrival May Mean a New Day for Springfield.* Washington Post. August 27.
- Louis Berger Group, Inc., 2006. *Archaeological Study Determination, Victory Center.* Submitted to Alexandria Archaeology Department, Alexandria, Virginia. November 10.
- Moomaw, Gayle. 2007. *Personal Correspondence with Gayle Moomaw, Alexandria Sanitary Authority (ASA).* October.
- Metropolitan Regional Information Systems (MRIS). 2007. *MRIS Trends in Housing Mid-Year 2007.* <<http://www.mris.com/reports/trendsreport>>. Accessed October 2007.
- Metropolitan Washington Council of Governments (MWCOC). 2004a. *Revised Carbon Monoxide Maintenance Plan and Revised 1990 Carbon Monoxide Base Year Emissions Inventory for the Washington DC-MD-VA Maintenance Area.*
- Metropolitan Washington Council of Governments (MWCOC). 2004b. *Plan to Improve Air Quality in the Washington, DC-MD-VA Region - State Implementation Plan "Severe Area SIP".*
- Metropolitan Washington Council of Governments (MWCOC). 2006. *Growth Trends to 2030: Cooperative Forecasting in the Washington Region.* COB Publication Number 20068279. <<http://www.mwcog.org/uploads/pub-documents/81laXQ20061010135838.pdf>>. Accessed September 2007.

- National Center for Education Statistics (NCES). 2005. *Common Core of Data, Search for Public School Districts*. <<http://nces.ed.gov/ccd/districtsearch>>. Accessed August 2006.
- New South Associates. 2007a. *An Archaeological Assessment of the GSA Warehouse Property, Springfield, Virginia*. October 15.
- New South Associates, Inc. 2007b. *An Architectural Historical Assessment of the GSA Warehouse Property, Springfield, Virginia*. October 15.
- National Fire Protection Association (NFPA). 2005. *U.S. Fire Department Profile Through 2004*. National Fire Protection Association, Fire Analysis and Research Division, Quincy, Massachusetts.
- National Wetlands Inventory (NWI). 2007. *National Wetlands Inventory (NWI) GIS Data for Selected Areas in Fairfax County and City of Alexandria, Virginia*. U.S. Fish and Wildlife Service, Arlington, VA.
- Northern Virginia Emergency Services. No date. *Northern Virginia Emergency Services Mutual Response Agreement*. <<http://www.novaregion.org/fire/pdf/mutualresponse041304.pdf>>. Accessed January 31, 2007.
- Osei-Kwadwo, Gilbert. 2007. *Personal communication with Gilbert Osei-Kwadwo, Manager, Fairfax County Engineering Analysis and Planning Branch, Wastewater Planning and Monitoring Division, Department of Public Works & Environmental Services*. April 25.
- Recovery Resources Development Corporation (RRDC). 1994. *GSA PCB Barrel Disposal Memorandum*. March 18.
- Richard, Steven. 1995. *Franconia Remediation*. Email Correspondence. June 27.
- Rodriguez, Melina. 2007. *Commissary Customers Like Price, Service, Selection*. Fort Belvoir Eagle. May 3.
- Rokosz, Ronald F. and Charles H. Hash. 1998. *Changing the Mindset-Army Antiterrorism Force Protection*. Washington D.C., Prepared for Joint Chiefs of Staff.
- Secretary of the Army. 2007. *Adaptive Re-Use Study for GSA Warehouse Area, Springfield, Virginia*. April 15.
- Smolik, Jodie. 2008. *Personal communication with Jodie Smolik, Executive Director, Winkler Botanical Preserve, Alexandria, Virginia*. March 6.
- Soil and Land Use Technology (SaLUT). 1994. *Asbestos Abatement Monitoring, Franconia Building*. Prepared for GSA. October 12.
- Soil and Land Use Technology (SaLUT). 2003. *Asbestos Survey, GSA Metropolitan Distribution Center*. Prepared for GSA. May 31.
- South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*.

- Stroud, Tim. 2008. *Personal Communication with Tim Stroud, Jones Lang LaSalle, Regarding Victory Center Utilities*. April.
- Tidewater, Inc. 2000. *Water Quality Testing for Drinking Water Sources at the Franconia Buildings B, C, & D*. Prepared for GSA. October 20. BNVP. 2007. *WHS/BRAC 133 – GSA Site Study*. Prepared for USACE Baltimore District. October 5.
- Tidewater, Inc. 2001. *Asbestos Bulk Sampling, GSA Stores Depot, Building A, Franconia, Virginia*. Prepared for GSA. November 27.
- U.S. Army Corps of Engineers, Mobile District (USACE). 2007a. *Final Environmental Impact Statement for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia*. June.
- U.S. Army Corps of Engineers, Mobile District (USACE). 2007b. *Final General Conformity Determination for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia*. July.
- U.S. Census Bureau. 2000. *Census 2000*. U.S. Census Bureau, Washington, DC. <<http://www.census.gov>> Accessed June 2007.
- U.S. Census Bureau. 2005. *American Community Survey 2005*. U.S. Census Bureau, Washington, DC. <<http://www.census.gov>> Accessed September 2007.
- U.S. Census Bureau. 2006. *American Community Survey 2005*. U.S. Census Bureau, Washington, DC. <<http://www.census.gov/acs/www/>> Accessed November 2006.
- U.S. Court of Appeals. 2006. *South Coast Air Quality Management District v. Environmental Protection Agency. On Petitions for Review of a Final Rule of the Environmental Protection*. Docket No. 04-1201, et al.
- U.S. Department of Education. 2006. *Impact Aid Programs*. <<http://www.ed.gov/programs/8003/index.html>>. Accessed June 11, 2007.
- U.S. Department of Agriculture Natural Resource Conservation Service (USDA NRCS). 2007. *Soil Survey of the City of Alexandria, Virginia*. <<http://soils.usda.gov>>. Accessed October 2007.
- U.S. Department of Transportation–Federal Highways Administration (USDOT-FHWA). 2001. *Manual of Uniform Traffic Control Devices, Millennium Edition*. Washington, DC. December.
- U.S. Environmental Protection Agency (USEPA). 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Washington, DC. Publication NTID300.1.
- U.S. Environmental Protection Agency (USEPA). 1992. *Guideline for Modeling CO from Roadway Intersections*. EPA-454/R-92-005.
- U.S. Environmental Protection Agency (USEPA). 1995. *Compilation of Air Pollutant Emission Factors, AP-42, 5th edition, Vol. I: Stationary Point and Area Sources*.

- U.S. Environmental Protection Agency (USEPA). 2002. *User's Guide to MOBILE6.2: Mobile Source Emission Factor Model*. EPA420-R-02-028.
- U.S. Environmental Protection Agency (USEPA). 2004. *Users Guide for the Final NONROAD2005 Model*. EPA420-r-05-013.
- U.S. Environmental Protection Agency (USEPA). 2005. *Methodology to Estimate the Transportable Fraction (TF) of Fugitive Dust Emissions for Regional and Urban Scale Air Quality Analyses*.
- U.S. Environmental Protection Agency (USEPA). 2006. *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*. 2006. EPA420-B-06-902.
- U.S. Environmental Protection Agency (USEPA). 2007a. *EPA AirDATA Website*. URL: <http://www.epa/air/data>. Accessed September 28, 2007.
- U.S. Environmental Protection Agency (USEPA). 2007b. *New Source Review (NSR) Aspects of the Decision of the U.S. Court of Appeals for the District of Columbia Circuit on the Phase 1 Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standards*.
- U.S. Environmental Protection Agency (USEPA). 2007c. *Enviromapper StoreFront, Window to My Environment, ZIP Codes 22150 and 22304*. <<http://www.epa.gov/enviro/html/em/>>. Accessed October 2007.
- U.S. Environmental Protection Agency and Federal Aviation Administration (USEPA and FAA). 2002. *General Conformity Guidance for Airports - Question and Answers*.
- U.S. Fire Administration (USFA). 2006. *National Fire Department Census Database*. <<http://www.usfa.fema.gov/applications/census/>>. Accessed July 2006.
- U.S. Forest Service (USFS). 1995. *Landscape Aesthetics: A Handbook for Scenery Management, Agriculture Handbook No. 701* U.S. Department of Agriculture. Washington, DC.
- U.S. Geological Survey (USGS). 1983. *Photorevised 7.5-minute topographic quadrangle coverage, Alexandria, Virginia*. U.S. Geological Survey.
- Vanasse Hangen Brustlin, Inc. (VHB). 2006. *Derived Number of Existing Fort Belvoir, WHS and DOD, and NGA Employees by location within the ROI*. VHB, Vienna, VA.
- Virginia Department of Conservation and Recreation (VDCR). 2008. *Response from VDCR Regarding Natural Heritage Resources on the Mark Center Site*. VDCR, Richmond, Virginia. January 31.
- Virginia Department of Environmental Quality (VDEQ). 2005. *VPDES Stormwater Permitting*. <<http://www.deq.virginia.gov/vpdes/stormwater.html>>. Accessed January 28.

- Virginia Department of Environmental Quality (VDEQ). 2006. *Virginia 305(b)/303(d) Water Quality Integrated Report to Congress and the EPA Administrator for the Period January 1, 2000, to December 31, 2004*. VDEQ and Department of Conservation and Recreation, Richmond, Virginia. <<http://www.deq.virginia.gov/wqa/ir2006.html>>. Published September 2006.
- Virginia Department of Environmental Quality (VDEQ). 2007a. *Fort Belvoir BRAC General Conformity Letter*.
- Virginia Department of Environmental Quality (VDEQ). 2007b. *VDEQ Geographic Environmental Information System*. <http://gisweb.deq.virginia.gov/deqims/viewer.htm>>. Accessed October 2007.
- Virginia Department of Environmental Quality (VDEQ). 2007c. *Comments on Draft Environmental Impact Statement and Federal Consistency Determination for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia, File # DEQ07032F*. VDEQ, Richmond, Virginia. April 26.
- Virginia Department of Environmental Quality (VDEQ). 2007d. *RCRA Permit Information and Correspondence for the GSA Site*. VDEQ, Woodbridge, Virginia. November 7.
- Wagaman, Ed. 2007. *Personal Communication with Ed Wagaman, Project Manager, Vika Inc.* October.
- Waier, Phillip R. 2006. *Building Cost Construction Data, 64th Annual Edition*. Kingston, MA : R.S. Means Construction Publisher and Consultants.
- Washington Headquarters Services (WHS). 2007. *Minutes from Meeting Between the Army and Dominion Virginia Power*. November 7.
- Williamsburg Environmental Group, Inc. (WEG). 2005. *Water Quality Minor Impact Assessment "Victory Center."* Prepared for Spaulding & Slye, Washington, DC. Herndon, VA: Williamsburg Environmental Group, Inc. September 2005.
- Woodward-Clyde Federal Services. 1989. *Preliminary Geotechnical and Environmental Studies GSA Parr Warehouse Site*.
- Wells & Associates, LLC. 2008a. *Mark Center Traffic Impact Study and Transportation Management Plan*. Prepared for Duke Realty Corporation. January.
- Wells & Associates, LLC. 2008b. *Victory Center Traffic Impact Study and Transportation Management Plan Proposal Clarifications*. Prepared for Jones Lang LaSalle. February.

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SECTION 8.0

ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing materials	EA	Environmental Assessment
ACSIM	Assistant Chief of Staff for Installation Management	EIFS	Economic Impact Forecast System
ADNL	A-weighted day night average sound level	EIS	Environmental Impact Statement
ADT	average daily traffic	EMP	Environmental Management Plan
AIRFA	American Indian Religious Freedom Act	EO	Executive Order
AM	<i>ante meridiem</i> (i.e., before noon)	EPG	Engineer Proving Ground
APR	Area Plans Review	ESA	Endangered Species Act
AQCR	Air Quality Control Region	FAR	floor-to-area ratio
AQCR 47	National Capital Interstate Air-Quality Control Region	FEMA	Federal Emergency Management Agency
AR	Army Regulation	FHWA	Federal Highway Administration
ARPA	Archeological Resources Protection Act	FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
ASA	Alexandria Sanitation Authority	FNSI	Finding of No Significant Impact
AST	aboveground storage tank	ft ²	square feet
AT	Antiterrorism	GCD	General Conformity Determination
AT/FP	Antiterrorism/ Force Protection	GCR	General Conformity Rules
BACT	best available control technology	GSA	General Services Administration
BMP	best management practice	HAP	Hazardous Air Pollutant
BRAC	Base Realignment and Closure	HOT	high-occupancy toll
BRAC 133	Base Realignment and Closure Recommendation 133	HOV	high-occupancy vehicle
BTU	British Thermal Unit	Hz	hertz
CAA	Clean Air Act	I	industrial
CDD	Construction and Demolition Debris	I-4	Medium-Intensity Industrial zoning district
CEQ	Council on Environmental Quality	I-95	Interstate 95
CERCLA	Comprehensive Environmental Response Compensation and Liability Act	I-395	Interstate 395, Shirley Highway
CFR	Code of Federal Regulations	I-495	Interstate 495, Capital Beltway
CNAC	Center for Naval Analysis	IDA	Institute for Defense Analyses
CO	carbon monoxide	ITE	Institute of Transportation Engineers
CPP	Construction Performance Plan	kV	kilovolt
CWA	Clean Water Act	L _{eq}	equivalent sound level
CZMA	Coastal Zone Management Act	lb	pound
DAR	Defense Access Roads	LBP	lead-based paint
DASA-ESOH	Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health	LEED	Leadership in Energy and Environmental Design
dB	decibel	LID	Low Impact Development
dBA	A-weighted decibel	LOS	level of service
DC	District of Columbia	LOV	low occupancy vehicle
DNL	Day-night average sound level	MACT	Maximum Achievable Control Technology
DoD	Department of Defense	μg/m ³	micrograms per cubic meter
DPWES	Department of Public Works and Environmental Services	mgd	million gallons per day
DVP	Dominion Virginia Power	mm	millimeters
		MMcf	Million Cubic Feet
		MOA	Memorandum of Agreement
		MOU	Memorandum of Understanding
		MS4	municipal separate storm sewer systems

MSAT	Mobile Source Air Toxics	RIF	remote inspection facility
MSDS	Material Safety Data Sheets	ROD	Record of Decision
msl	mean sea level	ROI	region of influence
MSF	million square feet	RONA	Record of Non-applicability
MSW	Municipal Solid Waste	ROW	right-of-way
MVA	megavolt amperes	RPA	Resource Protection Area
MWCOG	Metropolitan Washington Council of Governments	RTV	Rational Threshold Value
NAAQS	National Ambient Air Quality Standards	SCAQMD	South Coast Air Quality Management District
NAGPRA	Native American Graves Protection and Repatriation Act	SDDC	Surface Deployment and Distribution Command
NCPC	National Capital Planning Commission	SHPO	State Historic Preservation Officer
NCR	National Capital Region	SIP	State Implementation Plan
NEPA	National Environmental Policy Act	SO ₂	Sulfur Dioxide
NESHAP	National Emission Standards for Hazardous Air Pollutants	SUV	sport utility vehicle
NGA	National Geospatial-Intelligence Agency	SWPPP	Storm Water Pollution Prevention Plan
NHPA	National Historic Preservation Act	TBD	to be determined
NNSR	Nonattainment New Source Review	TCP	Traditional Cultural Properties
NO ₂	nitrogen dioxide	TMP	Transportation Management Plan
NO _x	oxides of nitrogen	tpd	tons per day
NPDES	National Pollutant Discharge Elimination System	tpy	tons per year
NRHP	National Register of Historic Places	TSCA	Toxic Substances Control Act
NSPS	new source performance standards	UFC	Unified Facilities Criteria
NSR	new source review	ULI	Urban Land Institute
O ₃	ozone	ULSD	Ultra-Low Sulfur Diesel
OCPA	Office of the Chief of Public Affairs	UPS	United Parcel Service
OSHA	Occupational Safety and Health Administration	U.S.	United States
OTR	Ozone Transport Region	U.S.C.	United States Code
PAO	Public Affairs Office	USACE	United States Army Corps of Engineers
Pb	lead	USEPA	U.S. Environmental Protection Agency
PCB	polychlorinated biphenyls	UST	underground storage tank
PCPI	per capita personal income	VA	Virginia
PM	<i>post meridiem</i> (i.e., after noon)	VAC	Virginia Administrative Code
PM	particulate matter	VCP	Virginia Coastal Resources Management Program
PM ₁₀	particulate matter less than 10 microns in diameter	VDEQ	Virginia Department of Environmental Quality
PM _{2.5}	particulate matter less than 2.5 microns in diameter	VDHR	Virginia Department of Historic Resources
ppm	parts per million	VDOT	Virginia Department of Transportation
PSD	prevention of significant deterioration	VOC	volatile organic compound
PTE	potential to emit	VPDES	Virginia Pollution Discharge Elimination System
RCRA	Resource Conservation and Recovery Act	VRE	Virginia Railway Express
REI	Request for Expressions of Interest	VRP	Voluntary Remediation Plan
		VSI	visual site inspection
		WHS	Washington Headquarters Services
		WMATA	Washington Metropolitan Area Transit Authority
		WWII	World War II

Appendix A

***Section 2708 of the
2008 National Defense Authorization Act***

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SEC. 2708. ACQUISITION OF REAL PROPERTY, FORT BELVOIR, VIRGINIA, AS PART OF THE REALIGNMENT OF THE INSTALLATION.

(a) Acquisition Authority- Pursuant to section 2905(a)(1)(A) of the Defense Base Closure and Realignment Act of 1990 (part A of title XXIX of Public Law 101-510; 10 U.S.C. 2687 note), the relocation of members of the Armed Forces and civilian employees of the Department of Defense who are scheduled to be relocated to Fort Belvoir, Virginia, shall be limited to the following locations:

(1) Fort Belvoir.

(2) A parcel of real property consisting of approximately 69.5 acres, under the administrative jurisdiction of the Administrator of General Services (in this section referred to as the 'Administrator') and containing warehouse facilities in Springfield, Virginia (in this section referred to as the 'GSA Property').

(3) Any other parcels of land (using including any improvement thereon) that are acquired, using competitive procedures, in fee in the vicinity of Fort Belvoir.

(b) Acquisition Selection Criteria- The Secretary of the Army shall select the site to be used under subsection (a) based on the best value to the Government, and, in making that determination, the Secretary shall consider cost and schedule.

(c) GSA Property Transfer Authorized- Pursuant to the relocation alternative authorized by subsection (a)(2), the Administrator may transfer the GSA Property to the administrative jurisdiction of the Secretary of the Army for the purpose of permitting the Secretary to construct facilities on the property to support administrative functions to be located at Fort Belvoir, Virginia.

(d) Implementation of GSA Property Transfer-

(1) CONSIDERATION- As consideration for the transfer of the GSA Property under subsection (c), the Secretary of the Army shall--

(A) pay all reasonable costs to move personnel, furnishings, equipment, and other material related to the relocation of functions identified by the Administrator; and

(B) if determined to be necessary by the Administrator--

(i) transfer to the administrative jurisdiction of the Administrator a parcel of property in the National Capital Region under the jurisdiction of the Secretary and determined to be suitable by the Administrator;

(ii) design and construct storage facilities, utilities, security measures, and access to a road infrastructure on the parcel transferred under clause (i) to meet the requirements of the Administrator; and

(iii) enter into a memorandum of agreement with the Administrator for support services and security at the new facilities constructed pursuant to clause (ii).

(2) EQUAL VALUE TRANSFER- As a condition of the transfer of the GSA Property under subsection (c), the transfer agreement shall provide that the fair market value of the GSA Property and the consideration provided under paragraph (1) shall be equal or, if not equal, shall be equalized through the use of a cash equalization payment.

(3) DESCRIPTION OF PROPERTY- The exact acreage and legal description of the GSA Property shall be determined by surveys satisfactory to the Administrator and the Secretary of the Army.

(4) CONGRESSIONAL NOTICE- Before undertaking an activity under subsection (c) that would require approval of a prospectus under section 3307 of title 40, United States Code, the Administrator shall provide to the Committee on Transportation and Infrastructure of the House of Representatives, the Committee on Environment and Public Works of the Senate, and the congressional defense committees a written notice containing a description of the activity to be undertaken.

(5) NO EFFECT ON COMPLIANCE WITH ENVIRONMENTAL LAWS- Nothing in this section or subsection (c) may be construed to affect or limit the application of or obligation to comply with any environmental law, including section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9620(h)).

(6) ADDITIONAL TERMS AND CONDITIONS- The Administrator and the Secretary of the Army may require such additional terms and conditions in connection with the GSA Property transfer as the Administrator, in consultation with the Secretary, determines appropriate to protect the interests of the United States and further the purposes of this section.

(e) Administration of Transferred or Acquired Property- Upon completion of any property transfer or acquisition authorized by subsection (a), the property shall be administered by the Secretary of the Army as a part of Fort Belvoir.

(f) Status Report- Not later than March 1, 2008, the Secretary of the Army shall submit to the congressional defense committees a report on the status and estimated costs of implementing subsection (a).

Appendix B
Scoping Letters and Agency Coordination

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Appendix B.1
Scoping Letters

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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

SEP 18 2007

To All Interested Parties:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementation of the Base Realignment and Closure (BRAC) Commission Recommendation 133 at Fort Belvoir, Virginia. BRAC Recommendation 133 primarily involves the relocation of Department of Defense agencies currently located in leased space, including activities associated with the Washington Headquarters Services, to Fort Belvoir. BRAC 133's requirements include up to approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. Of paramount importance is the ability to complete the BRAC 133 relocation by September 15, 2011. The location selected must be able to meet the appropriate force protection standards, be within a reasonable distance of the agency's headquarters located at the Pentagon, and present the least land use and transportation issues possible. The purpose of this letter is to obtain your comments on this action during this process, to request that you identify any issues that are likely to have an impact on the environment, transportation, or socioeconomic resources, and to identify reasonable alternative sites other than those identified below.

As a result of the Record of Decision signed on August 7, 2007, for the *Environmental Impact Statement (EIS) for Implementation of 2005 BRAC Recommendations and Related Army Actions at Fort Belvoir* published in July 2007, the Army deferred the decision on implementation of BRAC 133 pending evaluation of alternative sites in addition to those considered in the EIS. Alternatives that will be considered in the EA currently include: (a) transfer of federal property held by the General Services Administration (GSA) in Springfield, Virginia to the Army, with construction of administrative facilities at this site; and, (b) acquisition and construction of the "Victory Center" building site at 5001 Eisenhower Avenue in Alexandria, Virginia, and (c) locations on Fort Belvoir's Main Post or Engineering Proving Ground (EPG) identified in the EIS. A No-Action Alternative will also be considered. Figure 1 shows the locations of sites other than Fort Belvoir. The Main Post and EPG sites have already been evaluated in the EIS.

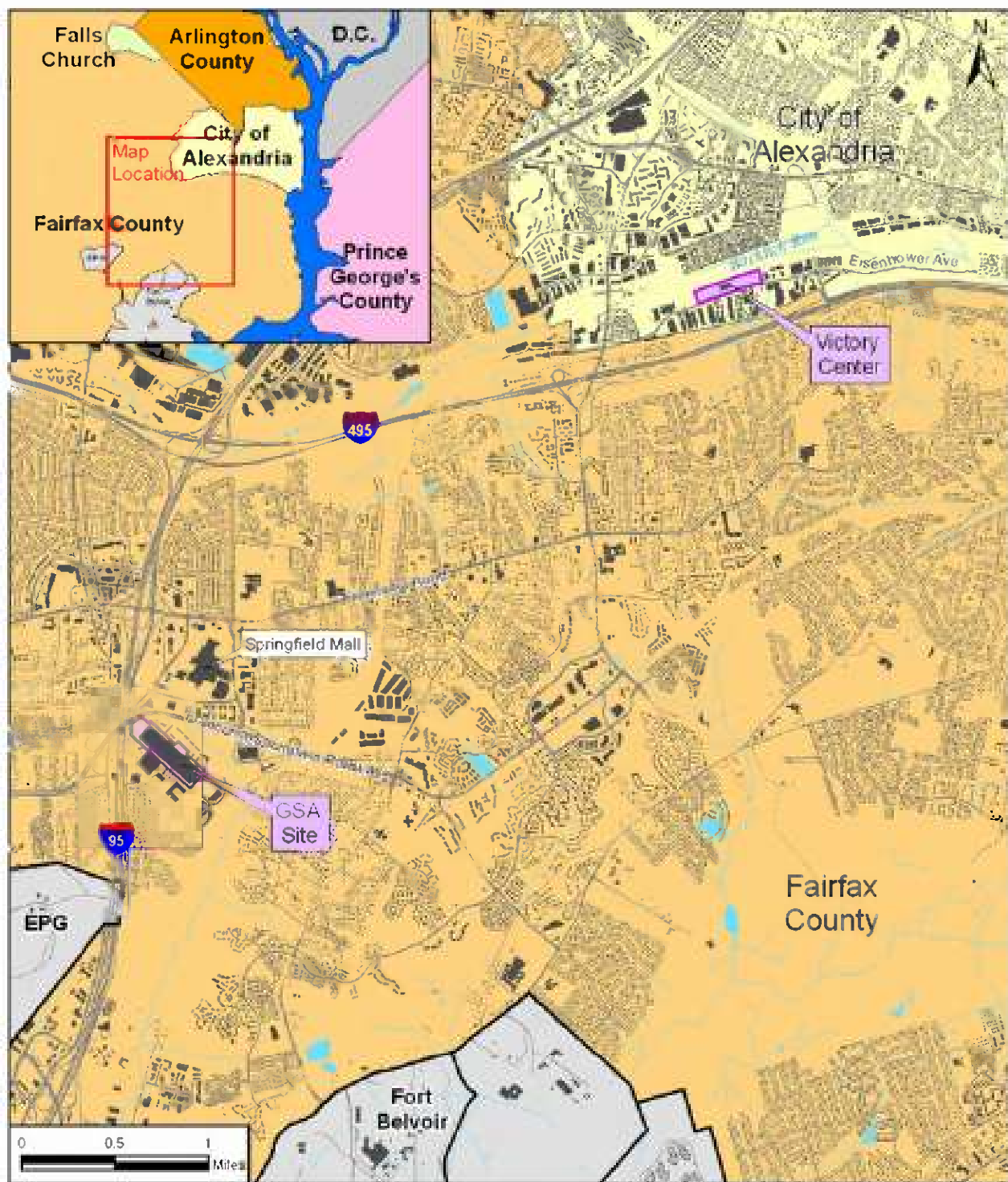
Written comments on issues to be addressed in the EA may be submitted to the Fort Belvoir Directorate of Public Works, ATTN: BRAC 133 Comments, 9430 Jackson Loop, Suite 100, Fort Belvoir, Virginia 22060-5116, or by email to environmental-fb-dpw@conus.army.mil. The deadline for submitting written comments on the scope of the EA is October 17, 2007. If you have any questions or require further information

regarding the BRAC 133 action at Fort Belvoir, please contact Mr. Don Carr, Director of Public Affairs, at 703-805-2583.

A handwritten signature in black ink, reading "Craig E. College". The signature is fluid and cursive, with the first and last names being more prominent than the middle initial.

Craig E. College
Deputy Assistant Chief of Staff
for Installation Management

Enclosure



LEGEND

- Alternative Site Boundary
- City of Alexandria
- Fairfax County

BRAC 133 Alternative Site Locations

Source: Fairfax County GIS, 2006; City of Alexandria GIS, 2007.

Figure 1



GERALD E. CONNOLLY
CHAIRMAN

COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX
BOARD OF SUPERVISORS
FAIRFAX, VIRGINIA 22035

Suite 530
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FAIRFAX, VIRGINIA 22035-0071

TELEPHONE 703-324-2321
FAX 703-324-3955

chairman@fairfaxcounty.gov

October 15, 2007

Dr. Craig College
Department of the Army,
Assistant Chief of Staff for Installation Management
600 Army Pentagon Washington DC 20310-0600

Dear Dr. College:

Thank you for inviting Fairfax County to provide scoping comments for the forthcoming Environmental Assessment that will address actions associated with BRAC Recommendation 133. The recommendation pertains to the relocation of Department of Defense agencies currently in leased space, including activities associated with the Washington Headquarters Services.

Your September 18, 2007 letter asks that interested parties "identify any issues that are likely to have an impact on the environment, transportation, or socioeconomic resources and to identify reasonable sites other than" the General Services Administration (GSA), Victory Center on Eisenhower Avenue in Alexandria, or the Fort Belvoir Main Post or Engineer Proving Ground (EPG). The following comments were reviewed and endorsed by the Fairfax County Board of Supervisors today at its October 15, 2007 meeting.

Fairfax County applauds the decision to consider the federally-owned GSA site as a part of the BRAC 133 effort and appreciates the considerable effort behind the decision. The proximity of this site to Metro and the Virginia Railway Express (VRE) coupled with the benefits of the revitalization of Springfield would help minimize overall impacts and costs associated with the BRAC action. The Springfield Connectivity Study funded by the Department of Defense Office of Economic Adjustment will provide up-to-date analysis of transportation impacts and costs that include redevelopment of the GSA site, including assessment of site specific road network and access improvements. This work would shorten the time otherwise needed for such analysis and would be a major benefit in meeting the September 15, 2011 relocation deadline. In addition, the re-creation of the Springfield Mall as a mixed use center could ultimately provide a multitude of residential and leisure opportunities for employees at the GSA site. The proximity of the GSA site to Fort Belvoir, the Pentagon and the re-energized Springfield Mall and downtown area provides a level of convenience not available at any other site currently under consideration.

In addition to nearby amenities, travel time to and from work for most employees would be less if BRAC 133 were located at GSA than at sites to the north, such as the Victory Center. The Final Environmental Impact Analysis for Implementation of 2005 BRAC Recommendations for Fort Belvoir and Related Army Actions at Fort Belvoir, Virginia, issued in June 2007 examined current and assumed 2011 travel patterns for Washington Headquarters Services and related DoD (Arlington) employees. The FEIS shows that presently most of these employees commute from the south to reach their jobs. This travel pattern is not expected to change over time. The reduction of automobile trips is an essential ingredient in avoiding daily multi-hour traffic delay. The EA scoping invitation acknowledges this necessity by indicating that 3,720 parking spaces are planned for 6,200 personnel. Bus service and car-

or van-pooling can address some, but not most, of this need. The ability to easily access rail is essential, but rail travel requiring few or no transfers is optimum. The VRE is the only commuter rail line serving the area where most BRAC 133 employees reside. The VRE station at the Franconia Springfield Metro Station is convenient to the GSA site, as opposed to the Victory Center which is not served by VRE, and would require a rail transfer for these employees to reach.

Accessing the Victory Center by automobile will be a difficult and frustrating experience for a number of years due to the reconstruction of the Telegraph Road interchange at I-495. Workers traveling west across the Woodrow Wilson Bridge, or north on U.S. Route 1 will be particularly inconvenienced, as will those making local trips to the Victory Center site. According to the Virginia Department of Transportation, a notice to proceed for the successful contractor(s) is anticipated to be issued in March 2008 for the Telegraph Road interchange project. This multi-year project is expected to extend through 2013 and will impact a 2.5 mile segment of the Beltway. Plans include raising a section of the Beltway approximately five feet, and constructing 17 interchange ramps and 11 bridges in the Telegraph Road area as well as Eisenhower Avenue and Duke Street. Contrasted with the completed improvements at the Springfield interchange, the GSA site, although transportation improvements would be required, offers immediate highway access.

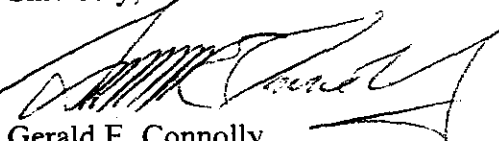
As stated in our previous comments, we are anxious to discuss the merits of the GSA site and work with the Army to assist in securing its transfer from GSA to the Department of the Army. Above all, we believe that consideration of the Victory Center site, which is more distant from multimodal transportation options, and where access will be hampered by lengthy road construction, does not best meet force protection standards.

Although we strongly support the GSA as a first choice for the location of BRAC 133 jobs, a hybrid approach that allocates these jobs to both the GSA and the Victory Center sites, or an alternative site in Fairfax County may be a way to further ameliorate impacts. The Fairfax County Board of Supervisors believes the GSA site is preferable because it is served by both Metro and VRE. The VRE service is critical since many of the 6,200 personnel proposed for this site will be commuting from communities to the south. We continue to stress the need for linkage between the locations of jobs and transportation facilities. Funding and completion of the necessary transportation improvements are essential. To identify these, BRAC 133 must include execution plan and timeline for transportation improvements, with commitment to full funding for transportation mitigation.

As with the consideration of the previous BRAC activities, careful thought and firm commitment from the U.S. Army are essential to offset cumulative effects and avoid the severe adverse impacts that could degrade the quality of life and the environment. To reiterate the concerns stated in my letter dated July 24, 2007 to Secretary Pete Geren, we were greatly disappointed that few of the important issues that were repeatedly raised were addressed in BRAC FEIS or the Record of Decision (ROD). We hope that the EA being prepared for BRAC 133 will not suffer the same lack of detail and commitment to mitigation. Our detailed comments are attached to this letter.

It is our hope that the issues presented in this correspondence and the issues we have previously raised relating to the BRAC EIS scoping process, Draft EIS and Final EIS will be thoughtfully and fully considered as they pertain to BRAC 133 actions.

Sincerely,



Gerald E. Connolly
Chairman, Fairfax County Board of Supervisors

cc: Colonel Brian W. Lauritzen, Garrison Commander, Dept. of the Army U.S. Army Garrison, Fort Belvoir

Members, Fairfax County Board of Supervisors

The Honorable John Warner, United States Senate

The Honorable Jim Webb, United States Senate

The Honorable James P. Moran, United States House of Representatives

The Honorable Frank R. Wolf, United States House of Representatives

The Honorable Thomas M. Davis III, United States House of Representatives

The Honorable Timothy M. Kaine, Governor of Virginia

Members, Fairfax County Delegation to the General Assembly

The Honorable Pierce R. Homer, Secretary of Transportation

Fairfax County Planning Commission

Fairfax County School Board

Fairfax County Park Authority Board

Fairfax County Environmental Quality Advisory Council

Fairfax County Transportation Advisory Commission

Anthony H. Griffin, County Executive

Robert A. Stalzer, Deputy County Executive

Susan Mittereder, Legislative Director

Katherine D. Ichter, Director, Department of Transportation

James P. Zook, Director, Department of Planning and Zoning

Jimmie D. Jenkins, Director, Department of Public Works and Environmental Services

Gloria Addo-Ayensu, Director, Department of Health

Timothy K. White, Acting Director, Fairfax County Park Authority

Paula C. Sampson, Director, Department of Housing and Community Development

Barbara A. Byron, Director, Office of Community Revitalization and Reinvestment

Jack D. Dale, Superintendent, Fairfax County Public Schools

Fairfax County Chamber of Commerce

Mount Vernon-Lee Chamber of Commerce

Greater Springfield Chamber of Commerce

Southeast Fairfax Development Corporation

Central Springfield Area Revitalization Council

Fort Belvoir Directorate of Public Works

FORT BELVOIR BRAC COMMISSION RECOMMENDATION 133
ENVIRONMENTAL ASSESSMENT SCOPING COMMENTS

General

1. We look forward to analyses documenting the effects of the possible location of BRAC 133 personnel on the Fort Belvoir Main Post including EPG; GSA property in Springfield; and the Victory Center site at 5001 Eisenhower Avenue in Alexandria Virginia, and the effect each of these approaches would have on the environment. We recommend that particular scrutiny be placed on the effects that concentration of development in any one location could have on transportation facilities and other infrastructure. Given this concern, we encourage the Army to consider a hybrid alternative for BRAC 133 that would split the jobs between the GSA and Victory Center, and/or consider additional sites within Fairfax County.
2. It should be clarified in the EA scope that EPG is considered a separate location from the Main Post
3. The EA should be comprehensive in nature. Each alternative should be considered within the broader context of regional development conditions (including, for example, but not limited to development in Springfield and along the Richmond Highway corridor).
4. With respect to documentation, the county should be integrated into the review of each key deliverable product and sufficient time (at least three weeks for each document) should be built into the schedule to allow for a county review of, and comment on, these materials. Coordination with the county should occur prior to formal submissions to Army and/or Department of Defense staff in the decision making process. This would allow county concerns to be addressed prior to the documentation gaining Army/DOD-level approval.
5. County staff be provided with specific points of contact for coordination and communication on land use, transportation, environmental, parks and recreation, public facilities, and school issues.
6. The planning process should be flexible enough to respond to changes that may occur to Fairfax County's Comprehensive Plan as well as development and redevelopment projects that may occur in the area during the process.
7. If the analysis is to include consider acquisition of private property, such as the Victory Center, Fairfax county requests that consideration be given to other sites that may be appropriate in closer or equal proximity to Fort Belvoir
8. With respect to the GSA site, we recommend that the Belvoir New Vision Planners work closely with county staff on the development of potential connections between this site and the nearby Franconia-Springfield Metrorail/Virginia Rail Express stations. These connections could greatly enhance site accessibility and reduce the need to travel in single occupant vehicles.

Transportation - General

9. Transportation analyses performed in support of the EA should be coordinated with modeling and analyses that have been performed as part of the County's Transportation Plan update process.
10. The EA should clearly document, for all alternatives, where both current and relocated employees and contractors reside and what the anticipated number and timing of vehicular trips to and from both all sites will be. To what extent will highway facilities be able to accommodate increased trips?
11. Transportation improvements should be provided and appropriately phased in order to correct transportation deficiencies and to achieve an acceptable level of service on the transportation network in support of existing and new development. Road and transit improvements based on present and projected commuting patterns through Fairfax County should be provided to accommodate the existing and additional trips to and from the sites under consideration. Analysis should be sufficiently comprehensive to consider the need for improvements beyond the immediate vicinity of the sites
12. Are current access points into the sites as currently constructed able to accommodate the number of vehicles entering the sites at the peak hour period? In Fairfax County, what signal modifications would need to be implemented along Richmond Highway, the Fairfax County Parkway, and other major routes needed to accommodate the changes in commuting patterns?
13. The EA should identify specific measures that will be applied to optimize the use of Metro, the Fairfax Connector, Virginia Rail Express, and Park and Ride facilities in order to reduce single occupancy vehicle use.
14. An effective Transportation Demand Management (TDM) program should be incorporated for existing and future development. Goals should be established for specific percentage reductions in single-occupant vehicle usage. Ridesharing, carpooling, van pooling, bus, VRE, Metro, establishment of park and ride/transit facilities, and limiting available parking are just some of the methods that can be incorporated into an effective TDM program. Please note that we do not feel that this issue was adequately addressed by the FEIS or the ROD, as stated in our comments dated August 3, 2007.
15. In addition to commuting patterns of employees, the EA should address the extent to which transit service will be available to provide connections between new office development at the sites and commercial establishments in neighboring areas. The establishment of a fixed guideway link and/or a shuttle bus service from sites to the nearest Metrorail/VRE stations as well as an on-post shuttle system should also be considered, and the EA should address both on- and off-post transit service.
16. The EA should evaluate the possible use of the abandoned coal train line right-of-way for some type of transit link to and from Fort Belvoir Main Post.

17. The completion of the Fairfax County Parkway and the Connector Road that will establish a new link between Richmond Highway and Telegraph Road are two current projects that are critical needs in the area. In our view, both projects must be in place prior to the BRAC-related relocations of employees. These projects face funding and/or environmental issues that may delay their completion in sufficient time to support these relocations. The EA should consider and identify the impacts that will occur if either or both of these projects are not in place by 2011.
18. The EA must address how BRAC related development will be phased to the availability of necessary roadway and transit improvements.

Transportation - GSA Warehouse Area

19. Attention should be given in the EA to determining the feasibility and estimating costs of the proposed link road under the Franconia-Springfield Parkway between Spring Mall Road and the GSA Warehouse area. Attention should also be given to determining the feasibility and cost of providing additional access to this area via a vehicular connection to/from the Parkway (a.k.a. "the Frontier Drive Extension"). Without the additional access into the area provided by one or both of these improvements, traffic to/from this area will overload Loisdale Road.
20. The updated analysis of the GSA site BRAC 133 should reconfirm that roadway improvements previously identified as needed to support the moderate level of employment with 5000 employees (April 2007 Adaptive Re-Use Study for GSA) will continue to be needed to support development at the 6200 employee level. These are viewed by the County as a baseline of traffic mitigation needed to support BRAC at the GSA Warehouse Area. The site access and road improvements identified under the Moderate Development Strategy include intersection improvements at Loisdale Road entrances, improvements at the Fairfax County Parkway and I-95 Interchange, expansion of shuttle bus service, the Spring Mall connector road, and widening of Loisdale Road to four through lanes.
21. In the earlier GSA site report, a 15 - 20% transit mode split was assumed in the analysis despite the fact that a pedestrian connection from this area to the metro station was described as "not required" to support limited and moderate levels of BRAC development. In order for transit usage at this level to occur, a more direct pedestrian connection between the metro station/VRE and the GSA site should be a required element of improvements identified to support the BRAC development. The analysis should address the feasibility and cost of constructing this pedestrian improvement. Possible scenarios for providing this connection include a bridge from the existing metro entrance road, located to the south of the parking garage and spanning the ravine, or a bridge located southwest of the station, if the metro platform can be extended to provide a better pedestrian connection to the station.
22. Sound transit oriented development principles should be taken into consideration in the development of concepts for developing the GSA site. These principles are embodied in the County's TOD Guidelines. Here is the definition from the County's TOD guidelines:

- i. *"Transit-oriented development (TOD) is typically compact development that contains a compatible mix of housing, employment and retail uses, in a high-quality walking and biking environment. TOD is the result of a deliberate planning strategy for reducing sprawl and automobile dependency by focusing medium to high density growth around planned and existing transit stations while protecting stable neighborhoods. Well-planned development that incorporates good design principles and includes a mix of uses around these stations can create opportunities for compact, pedestrian-friendly and vibrant neighborhood centers within walking distance of transit. TOD can leverage major investments in public transit infrastructure, contribute to environmentally sound means to accommodate new growth in the County, improve access to transit stations and enhance transportation choice in the area."*

23. The Comprehensive Plan calls for an internal loop road accessing Loisdale Road at two points. This facility should be designed as a four lane collector roadway, located outside the 148 foot security perimeter. Without this internal loop road, most development traffic would be limited to single-ended access to the arterial roadway system, creating traffic problems and potentially impeding emergency vehicle access. The redevelopment of the GSA site should provide for completion of the required four-lane road section along its frontage, the interconnection of internal streets, and the completion of the loop collector road.
24. In addition to pedestrian access to the metro station and VRE, shuttle bus service from the adjacent metro station has been identified as a means of providing improved transit access to this area. Provision of shuttle bus access to the BRAC uses at the GSA site is a required element to achieve the 15-20% transit mode split assumed in the analysis.
25. The Army should prepare a TDM plan identifying all transit improvements, services and supporting measures to bring about the desired transit and trip reduction goals identified for the BRAC development at the GSA Warehouse Area. Demographic data assembled earlier for BRAC 133 should be utilized to identify trip origins and potential travel markets. Trip assumptions made in the earlier BRAC EA analysis for Fort Belvoir should be refined or reconfirmed in the report and explicitly identified.
26. No major roadway improvements due to development or redevelopment in the Springfield area are expected to be completed by the 2011 opening date for BRAC.

Transportation—Main Post

27. The EA should consider improvements to transit connections between existing transit facilities (Metrorail, VRE, bus service, park and ride lots, etc.) and Fort Belvoir and EPG. The extension of Metrorail should be considered, but implementation of such an extension within the BRAC time frame is unrealistic and should only be considered as a long range enhancement. Construction of

park and ride facilities to the south of Fort Belvoir, a bus rapid transit extension from the existing REX service, and/or implementation of express service from Franconia-Springfield Metro/VRE, the Lorton VRE station, or from Prince William County are all possible considerations.

28. The EA should address the over-capacity projected in past environmental assessments for the Richmond Highway/Fairfax County Parkway, Richmond Highway/Backlick Road, Richmond Highway/Pohick Road, Richmond Highway/Belvoir Road, and Kingman Road/Fairfax County Parkway intersections, as well as over-capacity at the I-95 ramps and the Fairfax County Parkway. Improvements should be provided to correct these deficiencies.
29. The EA should consider the provision of an additional grade-separated connection between the North and South Post areas along with access that would improve traffic flow and reduce backups at the existing entrance gates.

Transportation—Engineer Proving Ground

30. The proximity of the Engineer Proving Ground site to the Franconia-Springfield Metrorail and Virginia Railway Express stations may afford opportunities to optimize the use of this transit resource. The EA should address the extent to which employees can be expected to commute to the area via Metrorail and the extent to which transit connections between the EPG site and the Franconia-Springfield station could increase commuting via transit to the site. Will such transit connections be provided? Will development design at the EPG site emphasize these connections if the proposed development indicates a demand for them?
31. The remaining segment of the Fairfax County Parkway must be constructed prior to the relocation of significant numbers of employees to Fort Belvoir. The EA should address the timing of this critical transportation project as it relates to any "build" alternative.
32. The EA should address future over-capacity concerns associated with Backlick Road at EPG and the I-95 ramps at the Fairfax County Parkway (which will relate to development at both the Main Post and EPG). The EA should also discuss the current design concept for the Fairfax County Parkway and access to EPG from the Parkway. Improvements should be provided to correct any deficiencies associated with these intersections and facilities.

Nonmotorized Transportation

33. The EA should include a map of planned pedestrian and bicycle trails and demonstrate how they will connect to those shown on the adopted Countywide Trails Plan. Development of appropriate segments within and adjacent to Fort Belvoir should be examined. Furthermore, trails along Richmond Highway and the Richmond Highway/Telegraph Road connector road as well as the Potomac Heritage Trail should be identified and incorporated onto the map of planned trails. The EA should identify mechanisms through which new trails will be funded and constructed.
34. The EA should identify measures that will be taken to facilitate transit use by employees and visitors, including provision of trail connections to Metro stations and shuttle bus service.

35. The EA should address the extent to which pedestrian and bicycle connections will be provided between on-post and/or near-post housing and on-site employment areas.
36. The EA should address the extent to which pedestrian connections and facilities (e.g. bus shelters) will be provided in order to facilitate transit use by new and existing employees.
37. The EA should address the extent to which new office buildings will be designed to accommodate bicycle commuting (e.g., secure parking facilities, locker and shower facilities).
38. The Accotink Stream Valley provides a major greenway corridor through the Springfield area of Fairfax County. The Cross County Trail, a 40-mile trail that runs from the Occoquan River in Lorton to the Potomac River in Great Falls, traverses a portion of the Accotink Stream Valley. As the EPG site is developed, additional trails along the Accotink Stream Valley should be developed and planned to link up with the Cross County Trail to provide a link between the EPG area and the Springfield Community Business Center as well as Lake Accotink to the north.

Development Envelopes/Design—General

39. The EA should identify design concepts that will result in compact development envelopes, thereby increasing open space, reducing impervious cover, and reducing associated adverse environmental impacts. Toward this end, the use of shared parking and structured parking should be evaluated.
40. The EA should address the extent to which support retail uses will be provided to serve new office development.
41. The development provides an opportunity for implementation of "Green Building" practices such as those promoted by the U.S. Green Building Council. The EA should identify the extent to which new development will be designed to meet or exceed federal guiding principles for high performance and sustainable buildings.

Development Envelope—Engineer Proving Ground

42. The EA should document how development of the EPG site will occur in a manner that is consistent with Fairfax County's Comprehensive Plan. Toward this end, development should remain concentrated to the east of the Accotink Creek stream valley (recognizing the Environmental Quality Corridor, as noted later in these comments). The area west of the EQC is designated in the Comprehensive Plan for public park use and other needed public uses; planned park land should be dedicated to the Fairfax County Park Authority for park purposes. The 2003 Defense Authorization included the opportunity to dedicate a 135-acre portion of the northwest quadrant to the Fairfax County Park Authority.
43. The EPG represents an opportunity to address much of the existing and projected parkland and recreational facility deficits in the Springfield Planning District. The Comprehensive Plan for this area includes 225 acres of Stream Valley/Greenway parkland, 60 acres to be developed as a

complex of lighted active recreation fields for use as a sports complex, and 25 acres to be developed as a multi-use activity center for cultural and seasonal events.

Development Envelope—Main Post

44. The southwest area of the Main Post is the most important remaining undeveloped large land area at Fort Belvoir. It contains numerous sensitive resources, lies between the flowing streams and estuaries of Accotink and Pohick Creeks, contains a high percentage of steep slopes and erodible soils, and would be highly impacted by development activity. The entire southwest area should be preserved for natural and cultural resource protection and management with no development and limited activities.

Development Envelope—GSA Site

45. The EA should evaluate the opportunities and challenges that are posed by the immediate proximity of this site to transit, as well as the site's proximity to the consortia health care university campus.

Demand for Services—General

46. The EA should provide information regarding the estimated number of employees who will probably move their residences near the areas under consideration and should document the effects that these relocations will have on county services. Particular housing, schools, utilities, park and recreation, and emergency service concerns are noted below.
47. Similarly, the EA should provide information regarding the estimated number of contractors who will probably move their businesses close to the area under consideration and should document the effects that these relocations will have on community services.
48. The EA should address the additional demands that the new employees (and the still to be determined number of associated federal contractors) will create on emergency services and the extent to which Fort Belvoir will be providing these services. The EA should document funding needs and sources for additional emergency service needs.

Housing

49. Increases in housing demand associated with growth should be clearly documented. Estimates should include that range of sales and rental rates that would be considered affordable to residents.

Schools

50. The EA should identify the magnitude of the anticipated increase in number of school age children that will result from the anticipated re-location of 6,200 jobs at each of the potential locations.

51. If a significant increase in the number of school age children is anticipated, the EA should identify sources for mitigation of impacts through land, funding or other measures to address the increase in capital costs to accommodate the expected increase.
52. Identify the potential number of children that may be anticipated as the result of secondary growth and induced new jobs resulting from this BRAC activity.

Utilities

53. The EA should address capacities of sewer and water facilities as they relate to anticipated levels of development.
54. Where needed to accommodate anticipated growth, sewer and water facilities should be expanded in capacity. In addition, the existing sewer capacity allocation agreement for Fort Belvoir may have to be re-negotiated or new agreements may need to be executed for sewer capacity needs at EPG and /or GSA sites. For each relevant alternative, the EA should identify the need and funding sources for any system expansions and applicable sewer connection fees that will be needed as a result of the alternative.

Parks and Recreation

55. The EA should include a needs assessment that projects the overall needs of its population for indoor and outdoor recreation and leisure facilities, open space, community services, and cultural and environmental programs. The EA should address how the needs identified will be met on-site, and if not met on-site, the impact of the demand for these facilities on existing park and recreation resources in the area. Project consultants are encouraged to consult guidance regarding service levels for ten key types of recreational facilities that has been developed by the Fairfax County Park Authority; this guidance has been incorporated into the Parks and Recreation section of Policy Plan volume of Fairfax County's Comprehensive Plan. FCPA has recently conducted a Countywide Park and Recreation Needs Assessment that projects park and recreation needs through 2013 and will be pleased to provide information collected through this process. The Mount Vernon and Lee District areas are deficient in many recreational facility types and additional impacts cannot be easily absorbed without expanding or building new facilities. This deficiency is especially high for athletic fields, specifically rectangular fields.
56. The EA should identify the extent to which, if any, each alternative would result in future development on areas that are now developed with (or designated for) recreational use. To offset any loss of redesignated recreation areas, additional recreation facilities should be identified and evaluated as part of the EA process. The area west of the EQC is designated in the Comprehensive Plan for public park use and other needed public uses; planned park land should be dedicated to the Fairfax County Park Authority for park purposes. The 2003 Defense Authorization included the opportunity to dedicate a 135-acre portion of the northwest quadrant to the Fairfax County Park Authority
57. Pole Road Park, Grist Mill Park, Woodlawn Park, Huntley Meadows Park, Historic Huntley, Mount Air Historic Site, the Berman Tract, Kingstowne Park, Island Creek Park, Levelle W.

Dupell Park, Pohick Estates Park, Southgate Park and Lorton Park are located in the immediate vicinity of Fort Belvoir. Other parkland in the vicinity of Fort Belvoir includes Pohick Bay Regional Park, as well as state- and federally-owned parkland on Mason Neck. Hooes Road Park, West Springfield Park, Rolling Forest Park, Rolling Wood School Site Park, Saratoga Park, Accotink Stream Valley Park and Pohick Stream Valley Park are located in the immediate vicinity of the EPG site. Laurel Hill is a large countywide park that also serves this area. Most of these parks contain extensive environmental and cultural resource preservation areas. The EA should comprehensively analyze impacts to FCPA-owned land in the area that may include air quality, water quality and quantity, noise levels, flora and fauna habitat changes, cultural and historic resources, environmental resources, and park facility capacity and recreation service levels. It is imperative that any off-site impacts to parkland from development, stormwater management changes, construction, or other activities at Fort Belvoir be anticipated and mitigated.

58. As noted earlier, much of the area west of the EQC on the EPG should be dedicated for park purposes, consistent with the Comprehensive Plan. Use of this area for public purposes will require extensive environmental cleanup prior to any land transfer to ensure safe public use.

Air Quality

59. Air quality analyses should consider both on- and off-site traffic congestion and measures that will be taken to reduce vehicle trips and vehicle miles traveled. The analysis should not be limited to carbon monoxide and particulate concentrations but should also evaluate development options with respect to emissions of precursors of atmospheric ozone.

Ecological Resources--General

60. The EA should address how impacts to wetlands will be minimized
61. The EA should address how any unavoidable impacts to wetlands will be mitigated. Mitigation/compensation should occur as close to the areas of impact as possible; the Stormwater Planning Division of the Fairfax County Department of Public Works and Environmental Services (703-324-5500) may be able to provide guidance regarding wetland mitigation/compensation opportunities.
62. Environmental Quality Corridors (EQC'S) as defined in the County's Policy Plan should be protected. The EA should recognize the EQC policy and address how new development will be designed consistent with this policy.

Ecological Resources—Main Post

63. We commend Fort Belvoir for its environmental stewardship efforts and recommend that any BRAC 133-related efforts serve to reinforce and, where possible, expand upon these efforts. The ecologically significant natural resource areas identified in Fort Belvoir's Integrated Natural Resource Management Plan (INRMP) should be recognized as a fundamental planning factor, and efforts should continue to be made to protect and enhance these areas. Toward that end, the EA should address the compatibility of all relevant options with the full

extent of significant natural resources as identified in the INRMP, with particular focus on the southwestern portion of the post (see below) and efforts to protect, and perhaps augment, Fort Belvoir's Forest and Wildlife Corridor (particularly in areas where this corridor is narrow). Direct and indirect impacts (e.g., potential for impacts by invasive species due to edge effects) should be addressed, as should be potential mitigation measures.

64. We are particularly concerned with the possible intensification of development in the southwestern portion of the post. This area contains mature upland forest with low levels of fragmentation, adjoins the Accotink Bay National Wildlife Refuge, and protects both the Accotink and Pohick Creeks as they enter the tidal regime of the Potomac River at Pohick Bay and Gunston Cove. Combined with the federal, state and regional park land already existing in this area, the southwest area represents an area of particular ecological significance that should be protected to the greatest extent possible.
65. The EA should identify sensitive areas along the Accotink Creek corridor that are critical for protection of the main stem of Accotink Creek as it approaches the Accotink Bay National Wildlife Refuge.
66. The EA should assess potential impacts to the Jackson Abbot Wildlife Refuge on Dogue Creek. This refuge is southwest of Huntley Meadows Park on the main stem of Dogue Creek. Protection and expansion of this refuge is critical to protect the wetlands and sensitive wildlife along the Dogue Creek corridor and in close proximity to the county's wildlife preserve at Huntley Meadows Park. This action would also support the county's Comprehensive Plan, which calls for the protection of the Environmental Quality Corridor associated with Dogue Creek.
67. The EA should assess the impacts of shoreline development, to include recreational, office, residential, etc. on Gunston Cove, the Potomac River and the mouth of Dogue Creek. Of particular note is possible recreational facility development on Gunston Cove. This area already has high use by recreational boats from Pohick Bay Regional Park and is experiencing conflicts with natural resource protection and passive recreation. This area also has one of the highest year-round concentrations of Bald Eagles and other species of concern.
68. New development should be concentrated within areas of the Post that have already been developed or otherwise disturbed.

Ecological Resources—Engineer Proving Ground

69. The entirety of the Environmental Quality Corridor (EQC) associated with Accotink Creek and its tributaries as well as other RPA and wetland areas, should be preserved in, and, where applicable, restored to, a natural condition. The EQC should be dedicated to the County for incorporation into the Stream Valley Park system. The RPA along the eastern property boundary and disconnected wetland area in the northeastern portion of the site should also be dedicated to FCPA.
70. Areas of the Engineer Proving Ground (EPG) are rated as medium- and high-quality small whorled pogonia habitat (this is the only known location of the species in Fairfax County (WSSI, 2005)), and suitable habitat for the wood turtle in larger, low-lying areas. These

species are indicators of environmental health. Preservation of their suitable habitat means preservation of relatively high quality ecosystems which harbor many species. Therefore, any infringement on the habitat for sensitive species or on sensitive communities should be significantly limited and minimized so as preserve the maximum amount of these land areas as possible.

Water Resources

71. The EA should identify all 100-year floodplains (applying the county's definition) and all Resource Protection Areas (applying the recently revised designation criteria) on the Main Post and the Engineer Proving Ground. These areas should be protected consistent with county policy and regulations.
72. The EA should recognize watershed management planning efforts that are under way in Fairfax County; Fort Belvoir should participate in the watershed management planning efforts for Dogue Creek, Accotink Creek, and Pohick Creek as these efforts get started.
73. Project consultants should coordinate with the Stormwater Planning Division of the Department of Public Works and Environmental Services on the identification of stream and stormwater management projects in the area of the Main Post, EPG and GSA site. A point of contact within the Stormwater Planning Division is Matt Meyers, who can be reached at 703-324-5500.
74. The EA should identify any body of water on or near the Main Post, EPG or GSA site that is included on the list of impaired waters designated pursuant to Section 303(d) of the Clean Water Act and should address the implications of these designations. Pohick Bay, other tidal waters, and nontidal portions of Accotink Creek on the Main Post and EPG are considered to be impaired.
75. The EA should address how impacts to streams will be minimized.
76. The EA should address how any unavoidable impacts to streams will be mitigated. Mitigation/compensation should occur as close to the areas of impact as possible; the Stormwater Planning Division of the Fairfax County Department of Public Works and Environmental Services (703-324-5500) may be able to provide guidance regarding stream mitigation/compensation opportunities.
77. At a minimum, erosion and sediment control measures, stormwater management measures, and water quality best management practices that are consistent with county requirements should be provided. The EA should clearly establish that these requirements will be satisfied.
78. The proposal to construct or otherwise use up to 1.5 million square feet of office space and 3,720 parking spaces raises concerns about impervious cover associated with these activities and resultant stormwater runoff. The EA should identify, for each alternative anticipated increases or decreases in impervious cover and should address opportunities to minimize impervious cover and to use other low impact development and better site design techniques. For all new development and redevelopment designs should be pursued that would serve, to the extent possible, to replicate predevelopment hydrologic conditions through infiltration of stormwater runoff.

79. The EA should The EA should, at least conceptually, identify stormwater management locations and strategies that will be pursued for each alternative.
80. The EA should address opportunities to reduce stormwater runoff volumes and pollutant loadings from existing, developed sites through redevelopment and through provision of stormwater management facilities to serve previously developed areas.

Site Contamination

81. The EA should identify sites on the Main Post, EPG and GSA site that have been subject to contamination and the status of efforts to clean these sites. The EA should further identify the relationship, if any, between site contamination issues and siting decisions for new development.

Cultural Resources

82. If the action proposed has the potential to affect cultural resources, the Army should identify the potential effects of each alternative on historic and archaeological resources in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. Projects impacting on cultural resources should comply with the Secretary of Interior's Standards and planning should be done in accordance with these standards. If a determination is made that project activities (undertakings) have the potential to adversely affect cultural resources on or near Fort Belvoir and/or the GSA site, the Areas of Potential Effect should be identified and mitigation to protect the resources should include the preparation of a Memorandum of Agreement or Programmatic Agreement allowing for the involvement of the Advisory Council on Historic Preservation, Virginia Department of Historic Resources, Fairfax County Park Authority Cultural Resource Management and Protection Section, Fairfax County, Alexandria Friends Meeting – Religious Society of Friends, and the National Trust for Historic Preservation as signatories to such agreements.
83. A statement should be included in the EA that would require all Section 106 archeological work (scopes of work and reports) be coordinated with the Fairfax County Park Authority. It is a requirement under Section 106 that consultation be made with all interested parties, of which the Park Authority is the prime one regarding archeology. Having done much of the survey work in that area and conducted data recovery on the Barnes/Owsley Plantation located there, FCPA is the most knowledgeable entity regarding the archeology on Fort Belvoir. The property has numerous significant prehistoric and historic sites including the ca. 1700 grave of Maj. Thomas Owsley, which has yet to be located.

Other

84. We have previously expressed concern about a possible Old Colchester Road site for the proposed National Museum of the U.S. Army and wish to reiterate this concern in light of new uncertainty regarding where on Fort Belvoir this facility may be located. The cumulative impacts of the museum, BRAC, and other programmed development at Fort Belvoir should be addressed in the EA. In addition to environmental and transportation impacts, impacts to the Fairfax County

Woodlawn and Pohick Church Historic Overlay Districts and viewsheds associated with these districts should be considered in any siting decision for this facility.

85. The EA should document anticipated operations at Davison Army Airfield and identify associated noise impacts. Of particular interest would be any differences that might occur in airfield operations under the various options.

October 17th, 2007

Fort Belvoir Directorate of Public Works
Attn: BRAC 133 Comments
9430 Jackson Loop, Suite 100
Fort Belvoir, Virginia 22060-5116

To Whom It May Concern::

I am Jason Rodriguez with the Hilton Springfield, writing in regard to BRAC 133, the decision where to transfer the 6,200 WHS employees. As an impacted employee and local homeowner, I wanted to express to you my great concern with the emergence of a new alternative, the 5001 Eisenhower Avenue location known as "Victory Center."

The GSA parcel—identified in the final Environmental Impact Statement (EIS) as the City Center Alternative—is a prime location for mixed use transit including access to Metrorail, Virginia Railway Express and other mass transit alternatives. By transferring the WHS employees to the "Victory Center" (not connected to Virginia Railway Express) workers who live in southern Fairfax or bordering counties will be forced to commute by automobile. This increased traffic will place additional demands on our transportation infrastructure.

In addition to transportation infrastructure impact, the decision to evaluate the Victory Center through an Environmental Analysis (EA) does not offer full community input. An EA requires only public notification, unlike an EIS which requires a formal public review process. Furthermore, an EA generally has three defined functions: (1) provide evidence for determining whether to perform an EIS; (2) provide alternatives when an EIS is not necessary; (3) facilitate preparation of an EIS. In the case of BRAC 133, an EIS has already been completed where the GSA parcel was evaluated and proffered/supported in the Record of Decision as the City Center Alternative. Preparing an EA now for the Victory Center may require an EIS, further delaying the installation deadline of 2011.

I hope you will take into consideration my great concern with the possible transportation burdens this decision may have, as well as the possibility that BRAC will be delayed due to a last minute EA and EIS preparation. Thank you for your consideration on this matter.

Sincerely,

Jason C. Rodriguez
Hilton Springfield

From: Usagroups@aol.com [mailto:Usagroups@aol.com]

Posted At: Tuesday, October 16, 2007 3:04 PM

Posted To: Environmental-FB-DPW

Conversation: BRAC 133

Subject: BRAC 133

October 16, 2007

Dear Mr. College:

I am **Sherry Dana, President of U.S.A. Groups, Inc.** writing in regard to public comment on BRAC 133, the decision where to transfer the 6,200 WHS employees. The surprising emergence of a new alternative—the 5001 Eisenhower Avenue location—from the City Center Alternative evaluated in the EIS is of the utmost concern as it burdens South County with many transportation problems that the GSA parcel site will mitigate. Additionally, I have concerns as to whether the decision to look at the Eisenhower site through an EA rather than an EIS analysis will fully address the environmental impacts.

The GSA parcel is a prime location for mixed use transit including access to Metrorail, Virginia Railway Express and other mass transit alternatives. By transferring the WHS employees to the “Victory Center”—which is not connected to Virginia Railway Express—workers who live in southern Fairfax or bordering counties will be forced to commute by automobile. This increased traffic will place additional demands on our transportation infrastructure.

In addition to transportation infrastructure impact, the decision to evaluate the Victory Center through an EA does not offer full community input. An EA requires only public notification, unlike an EIS which requires a formal public review process. Furthermore, an EA generally has three defined functions: (1) provide evidence for determining whether to perform an EIS; (2) provide alternatives when an EIS is not necessary; (3) facilitate preparation of an EIS. In the case of BRAC 133, an EIS has already been completed where the GSA parcel was evaluated as the City Center Alternative. Preparing an EA now for the Victory Center may likely require an EIS, further delaying the installation deadline of 2011.

I hope that the Department of Army will take the above concerns into consideration when evaluating alternative sites for the WHS employees. Thank you for your consideration on this matter.

Sincerely,

Sherry Dana

U.S.A. GROUPS, INC.

1-800-872-4777

Website **now** available: www.Usagroups.net

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From: Corner Cuisine [mailto:sales@cornercuisine.com]

Posted At: Tuesday, October 16, 2007 2:09 PM

Posted To: Environmental-FB-DPW

Conversation:

Subject:

October 16, 2007

Mr. Craig E. College
Deputy Assistant Chief of Staff
for Installation Management
9430 Jackson Loop, Suite 100
Fort Belvoir, Virginia 22060-5116

Dear Mr. College:

I am **Laura Escamilla** with **Corner Cuisine** writing in regard to public comment on BRAC 133, the decision where to transfer the 6,200 WHS employees. The surprising emergence of a new alternative—the 5001 Eisenhower Avenue location—from the City Center Alternative evaluated in the EIS is of the utmost concern as it burdens South County with many transportation problems that the GSA parcel site will mitigate. Additionally, I have concerns as to whether the decision to look at the Eisenhower site through an EA rather than an EIS analysis will fully address the environmental impacts.

The GSA parcel is a prime location for mixed use transit including access to Metrorail, Virginia Railway Express and other mass transit alternatives. By transferring the WHS employees to the “Victory Center”—which is not connected to Virginia Railway Express—workers who live in southern Fairfax or bordering counties will be forced to commute by automobile. This increased traffic will place additional demands on our transportation infrastructure.

In addition to transportation infrastructure impact, the decision to evaluate the Victory Center through an EA does not offer full community input. An EA requires only public notification, unlike an EIS which requires a formal public review process. Furthermore, an EA generally has three defined functions: (1) provide evidence for determining whether to perform an EIS; (2) provide alternatives when an EIS is not necessary; (3) facilitate preparation of an EIS. In the case of BRAC 133, an EIS has already been completed where the GSA parcel was evaluated as the City Center Alternative. Preparing an EA now for the Victory Center may likely require an EIS, further delaying the installation deadline of 2011.

I hope that the Department of Army will take the above concerns into consideration when evaluating alternative sites for the WHS employees. Thank you for your consideration on this matter.

Sincerely,

Laura Escamilla
Corner Cuisine
9000K Lorton Station Blvd.
Lorton, VA 22079

www.cornercuisine.com

Dees, Donald H CIV USA IMCOM

From: neal mcbride [nealfmcbride@cox.net]
Sent: Tuesday, October 16, 2007 1:43 PM
To: Dees, Donald H CIV USA IMCOM
Subject: Re: Solicitation of comments on EA for BRAC 133

Don,

Per my just-now voice-mail message I left in your telecon system, with whatever e-mail recipient problem is occurring within the conus.army mail system to which the subject EA comments are supposed to be sent, here below is a copy of what I just completed for the BRAC-133 EA activity.

Thanks.

Neal

Date: 10/16/07

Subject: Reply to Ft. Belvoir BRAC Commission Decision Recommendation 133

To: Fort Belvoir Directorate of Public Works

ATTN: BRAC 133 Comments

Below are outlined our Coalition's comments to your recently-published request that the community respond to the final Ft. Belvoir BRAC EA proposal for staffing locations that would consider the current GSA Warehouse Site (next to Franconia-Springfield Metro Station) and the existing Victory Center Site (along Eisenhower Avenue in Alexandria). In brief, we believe that the GSA Site would be much more appropriate and preferable than the Victory Center Site; we have not formally commented upon the published third alternative (Ft. Belvoir's Main Post or EPG Post) since they both in our opinion would require overcoming even greater transportation, environmental and community-impact problems than the GSA and possibly even the Victory Center Sites.

A. Pro-GSA Site Rationale:

--- Immediately adjacent to the recently-upgraded I-95/I-395/I-495 Interchange, which will provide even greater access for BRAC-related purposes in the future once the several in-process/planned other major VDOT-sponsored enhancements are made to the I-95/I-395/I-495 Corridors over the next half-decade or so — especially via the two HOT/HOV-Lane Improvement Projects being funded within Virginia's PPEA Program — not to mention the many other upgrades all around and leading to the Mixing Bowl Area that are projected as a result of the recently-approved 2007 Virginia State Transportation Funding Program.

--- Immediately adjacent to the existing Franconia-Springfield Parkway, which itself is planned for major improvements over the next decade as part of both Fairfax County's and VDOT's proposed upgrades and expansions (e.g., new HOV lanes, grade-separated interchanges, etc.)

--- Immediately adjacent to the Metro Subway System's Franconia-Springfield Station, which has both parking-growth capacity as well as an already-existing and well-established local pedestrian, slug-line, taxi and bus (local, regional and long-distance) systems' network within its borders.

--- Immediately adjacent to the VRE Commuter Rail System's Springfield Station, which is scheduled for substantive infrastructure and scheduling enhancements via new funding coming from both the expected 2007 Fairfax County Transportation Bond Referendum and from the above-noted Virginia State Transportation Funding Program.

--- Nearby to the Springfield Mall Complex, which (in addition to the existing parking/commercial/retail/residential assets that already make it an attractively-positive feature for the as many as 6,200 new BRAC-related staff at the proposed GSA Site) is being planned for a massive upgrade over the next decade by its new owners (Vornado Company), which will include almost 2,000 new mixed-price housing units, new upscale office and retail space, additional parking spaces and probably more importantly, a much more aggressive and user-friendly system of pedestrian and shuttle-bus transportation-oriented networks that will bring both its own and neighboring complexes' workers/clients/visitors much greater access to the adjacent Metro & VRE Trains and the WMATA and Fairfax Connector/TAG Bus Stations than ever before.

--- Immediately adjacent to the former KSI/future Boston Properties' Mixed-Use Area Redevelopment Complex, which not only has on-site moderately-priced apartment-style residential and extended stay hotel facilities, but will also significantly expand over the next half-decade or so via the currently-in-process Boston Properties project that will border the Metro/VRE Stations with a number of buildings and a connecting roadway and walkway ramps for moving shuttle buses and pedestrians into and out of the Complex — all of which will be able to directly tie into

the contiguous GSA Site as well.

— Immediately adjacent to the new and to be expanded No. Va. Community College's Springfield Campus, which not only can facilitate and serve future Ft. Belvoir and WHS educational programs, but it could also be a potential provider of on-site industrial-type health care services for Army personnel as well — due to its existing and easily-expandable health-care services programs.

— Nearby to the existing and/or already in-process/projected other Ft. Belvoir BRAC- and non-BRAC-related offices, programs and facilities (i.e., Main Post, EPG Post, Davison Field), which makes for much greater ease of support and access of use, as well as having almost immediate access to both road and rail networks that make travel to the Pentagon and other Metro-Area DoD facilities very accommodating as well.

— Nearby to the potentially-important and just-recently-proposed (by WMATA) mass transit Ft. Belvoir-oriented bus/light-rail system, that would allow for the reactivation of the former Ft. Belvoir rail line between existing CSX/VRE railway line (just east of I-95 Corridor) and that could eventually encourage even greater reduction in transportation-related negative impacts to the overall Ft. Belvoir Complex as well as open up the possibility of a future mass-transit interconnection between the GSA Site and the EPG Site on the other side of the I-95 Corridor as well.

— Its approximately 70-acre size and its already being owned by the Federal Government offers much greater flexibility for both current and future internal logistical arrangements as well as for external zoning, privacy, infrastructure-expansion and staff/systems' terrorist threats' mitigation — especially vis-a-vis what could otherwise be made available at the very small/private-owned/local-Government-regulated 16-acre Victory Center Site.

B. Anti-Victory Center Site Rationale:

— Not reasonably walkable (especially for women staff/visitors) to a convenient major FC Connector, WMATA, Metro Rail Station Area; and the pedestrian and street corridor that is available is excessively "public" — i.e., on a public street that is prone to all sorts of localized traffic-accident and criminally-negative incidents that will directly or indirectly "put unwanted fears" into the subconscious minds of many future users of that site.

— No VRE or regional/long-distance bus or commuter slug-line system station/gathering-spot nearby.

— Not readily accessible (either via existing local roadway network or future/projected mass transit systems) to other Ft. Belvoir or Army facilities.

— Very limited nearby access (definitely NOT pedestrian/shuttle-friendly) to appropriate retail, residential, hotel facilities that staff/visitors/consultants would find necessary and appropriate for their regular functions — both for on- and off-duty purposes.

We close our commentary presentation with the following statement from a recent article in the Springfield Times Newspaper, that quotes an Army General:

"The events of Sept. 11 underscore our need for security and increased safety. It also affords us a reduction in leased space and will make us more efficient," said AMC Chief of Staff Maj. Gen. Richard A. Hack in 2002, at the beginning of AMC's relocation. Upon his return from Germany in 2002, Hack expressed surprise at what he considered the exposed vulnerability of what is now known as The Victory Center building on Eisenhower Ave. In addition to a vast, wide open parking lot with no security ballards, and the structural blast deficiencies of an older building, there was also a railroad line directly behind the building that, in his evaluation, posed a potential explosive threat. By autumn 2003 that was no longer the case, because since then they have been housed in a newly constructed modular headquarters built on Fort Belvoir's main post, from which they will soon be relocating to newer facilities currently being prepared for AMC at an army base in Alabama."

Thank you.

Neal McBride, Secretary
South Run Coalition
c/o 8201 Southrun Road
Springfield, VA 22153
703-455-0398

----- Original Message -----

From: Dees, Donald H CIV USA IMCOM

To: nealmcbride@cox.net

Sent: Monday, October 15, 2007 11:01 AM

Subject: Solicitation of comments on EA for BRAC 133

10/16/2007

Mr. McBride,

I hope this helps. Call if you have questions.

<<brac133EA.pdf>>

Don Dees

703-805-2402

From: Shipley, Roger PMA 273, NAVAIR BLDG 3258 [mailto:roger.shipley@navy.mil]

Posted At: Thursday, September 27, 2007 11:21 AM

Posted To: Environmental-FB-DPW

Conversation: Location for Army Jobs

Subject: Location for Army Jobs

To whom it may concern,

I had read the article in the Washington Post soliciting ideas for a location for the 6,200 ARMY jobs, initially slated to relocate to near Fort Belvoir. I would like to suggest that the NAVAL AIR STATION (NAS) Patuxent River be given consideration.

The NAS is located in beautiful St. Mary's county MD and is well equipped to handle the impact that an influx of new jobs creates. The NAS and the local community have a wonderful working relationship and have the infrastructure already in place (or planned for) as a result of recent BRAC activities which relocated the NAVAL AIR SYSTEMS COMMAND (NAVAIR) and other activities to the base. There is still plenty of real estate available on the base and the area has a large, educated workforce already in place.

As our military focus has shifted towards 'jointness' among the various services, I can't think of a better opportunity for the Army & the Navy team to build a wonderful working relationship.

I have included a link to the NAS website: www.naspatuxentriver.com for your convenience.

Roger L. Shipley
Configuration Manager
Program Manager Air (PMA 273)

October 10, 2007

Mr. Craig E. College
Deputy Assistant Chief of Staff
for Installation Management
9430 Jackson Loop, Suite 100
Fort Belvoir, Virginia 22060-5116

RE: BRAC 133 Comments, Ft. Belvoir Directorate of Public Works

Dear Mr. College:

Since the announcement of BRAC in 2005 our coalition of the two Chambers of Commerce most impacted has been steadfastly supportive of the process and the potential for BRAC/Fort Belvoir to positively impact the revitalization and quality of life in southern Fairfax County. The surprising emergence of a new alternative for the transfer of the WHS employees to the 5001 Eisenhower Avenue location is of the utmost concern as it undermines the positive impact of BRAC generally, and specifically burdens South County with many transportation problems that the GSA site will mitigate. Additionally, we have concerns as to whether the decision to look at the Eisenhower site through an EA rather than an EIS analysis will fully address the environmental impacts. Clearly the EA process does not provide nearly the public input to this decision that has been the hallmark of the BRAC process to date.

The South County Coalition is an initiative of the Greater Springfield and Fairfax County Chambers of Commerce to engage the business community in the redevelopment of South County through the decisions and installation of BRAC at Fort Belvoir. We have no question that – if done well – the changes coming to Fort Belvoir can have a profound and positive impact on our community. One of those positive impacts can be achieved through transferring the WHS employees to the GSA parcel in Springfield as suggested in the signed Record of Decision (ROD) under the City Center Alternative.

Central Springfield is currently transforming from a highway exit of fast food restaurants and discount stores to a vibrant social and economic hub of southern Fairfax County. The economic revitalization sprang to life with adopted concepts like transit-oriented-development and key redevelopment projects like the redesigning of the Springfield Mall. For all this to be a success, many stakeholders had to play specific roles. The Army's considered use of the GSA parcel was one variable that contributed to the driving force for revitalization and was overwhelmingly endorsed by the South County Project earlier this year.

The GSA parcel is a prime location for mixed use transit including access to Metrorail, Virginia Railway Express and other alternatives like Bus Rapid Transit. With the parcel's close proximity to the Springfield Interchange, the workforce can easily access


our regions three major highways. The South County Coalition has supported the use of the GSA parcel specifically for its variety of transit options and believes that by properly utilizing current infrastructure, the Department of the Army and the installation of BRAC can successfully transfer the WHS employees while keeping mitigation costs at a minimum and contributing to the continued revitalization of the region.

In addition to the economic impact, the GSA parcel offers the least amount of resistance to achieve the objectives of the BRAC process while in compliance with the law. According to the signed ROD, land used in the realignment must transfer administrative control of the property to Fort Belvoir. The GSA parcel is already federal government property and can be easily transferred to Department of Defense, Ft. Belvoir. The South County Coalition applauded our Congressional delegation in May when Congressmen Moran and Davis supported this transfer by including language in the FY08 Defense Appropriations legislation mandating that the GSA and the Army enter into an agreement.

Southern Fairfax County as a whole has been extraordinarily fortunate in the Army's decisions thus far. The locating of the National Museum of the Army is one such benefit. The museum will add to the rich cluster of tourism destinations in the area and will make South County an even more attractive destination for visitors. Likewise, the expansion of DeWitt Hospital will provide more medical care options for the many retired military that already live in proximity to Ft. Belvoir. It is the hope of the South County Coalition, that placing the 6,200 WHS employees at the GSA parcel will further the overall importance of this installation for South County's redevelopment and economic vitality.

The South County Coalition looks forward to continued dialog with stakeholders and the insurance of a successful welcoming of this great opportunity. We again thank you for your consideration on this matter.

With kindest regards,



Nancy-jø Manney
Greater Springfield
Chamber of Commerce



William D. Lecos
Fairfax County
Chamber of Commerce

Cc: The Honorable John W. Warner
The Honorable James Webb
The Honorable Thomas M. Davis
The Honorable James P. Moran
The Honorable Gerry Connolly
The Honorable Dana Kauffman



COMMONWEALTH of VIRGINIA

Office of the Governor

Pierce R. Homer
Secretary of Transportation

P.O. Box 1475
Richmond, Virginia 23218

(804) 786-8032
Fax: (804) 786-6683
TTY: (800) 828-1120

October 16, 2007

Fort Belvoir Directorate of Public Works-ENRD
Attn.: BRAC 133 Comments
9430 Jackson Loop, Suite 100
Fort Belvoir, Virginia 22060-5116

Dear Sir/Madam:

Thank you for allowing the Virginia Department of Transportation to provide input into the scope of the Environmental Assessment for BRAC 133 (relocation of Washington Headquarters Services (WHS)). We applaud your efforts to link Army land use proposals to transportation by evaluating locations that offer better access to road, transit and non-motorized transportation facilities.

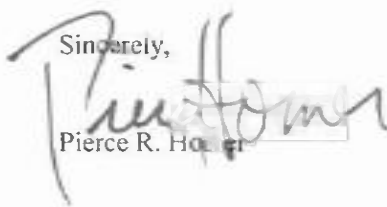
The analysis you are undertaking for WHS should include the following:

- 1) Updated traffic studies to include the road networks serving all alternative sites being considered;
- 2) Updated traffic studies to determine the road improvements needed to mitigate the impact of reduced employment levels at EPG.
- 3) A list of road, transit and non-motorized transportation improvements necessary to mitigate the impact of relocating WHS to an alternate site;
- 4) Cost estimates for all necessary transportation improvements identified in the analysis;
- 5) NEPA studies for all necessary transportation improvements identified in the analysis;
- 6) In order to solicit public input on the Environmental Assessment, we encourage you to publish the draft document and conduct a public hearing prior to finalizing the recommendations on WHS.

Consistent with understanding of the Commonwealth, the U.S. Army and the Federal Highway Administration, we continue to believe the Engineering Proving Grounds and Fort Belvoir Main Post are not viable options for the location of WHS and its employees because of the associated transportation impacts.

Thank you in advance for allowing us the opportunity to review the Environmental Assessment and subsequent Final Environmental Impact Statement prior to issuance of the ROD.

Sincerely,



Pierce R. Homer

Attachment

PRH:tf

Copy: David Ekern
Matthew Tucker

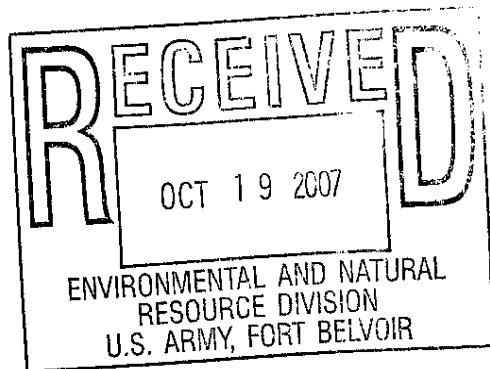
September 27, 2007

To Whom it may Concern,

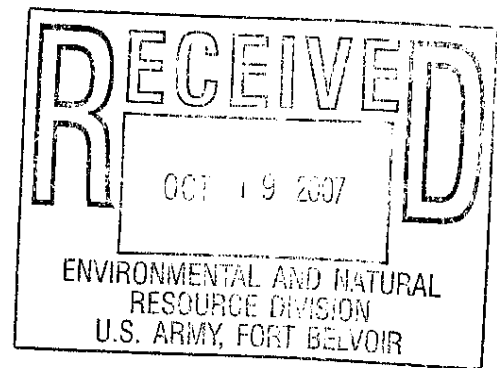
We need these young military professionals and their families here in Youngstown, Ohio to infuse and boost our economy.

Please send the 6200 troops to Youngstown, Ohio. Military people are well trained and would be an asset to our community.

Thank you,
Mrs. Lenise H. Johnson



United States Army
Fort Belvoir Directorate of Public Works
Attn BRAC 133 Comments
9430 Jackson Loop
Suite 100
Fort Belvoir, VA 222060-5116




To whom it may concern;

I recently saw the notice posted in the Washington Post regarding the placement of 6,200 jobs for Army members. Youngstown, OH was a large city that rapidly decreased in size due to the collapse of the steel industry. It is a city that has a large state university, incredible property values, one of the largest metro parks in the country, and a host of amenities only found in much larger cities due to the development of a large infrastructure during the heyday of the steel industry (opera, symphony, art museums, commerce, theaters, etc.). It also has some of the largest historic districts in the country at some of the best prices as well. Youngstown State University is a regional educational leader, and there would be many opportunities for the Army employees to continue their education, pursue volunteer opportunities with the school of Engineering, or to send their children to an inexpensive state institution. For more information, please visit:

<http://www.city-data.com/city/Youngstown-Ohio.html>

Thank you for your consideration,


Deborah Mower, Ph. D.
Department of Philosophy and Religious Studies
Youngstown State University
One University Plaza
Youngstown, OH 44555
dsmower@ysu.edu
330-491-3449

*Craig E. College
Deputy Assistant Chief of Staff for Installation Management
Department of the Army
Fort Belvoir Directorate of Public Works
9430 Jackson Loop, Suite 100
Fort Belvoir, VA 22060-5116*

RE: BRAC 133 COMMENTS

Dear Mr. College:

Since the announcement of the BRAC in 2005, the Mount Vernon-Lee Chamber of Commerce has been supportive of the planned relocations to Southeast Fairfax County. We support our military and appreciate the opportunity to further assist with the mission of Fort Belvoir and its tenant agencies.

Placement of the Washington Headquarters Staff (WHS), the final piece in the BRAC puzzle, will have an enormous effect on the overall success of the plan, therefore we oppose any non-governmental site as the home of WHS. We oppose any last-minute additions of non-governmental sites, such as that on Eisenhower Avenue. Sites in Fairfax County, both on Fort Belvoir, and the federal land occupied by the General Services Administration in Springfield comply with the original intent of BRAC 2005.

Sincerely,

*Kahan Singh Dhillon, Jr.
Chairman*

*cc: Congressman Tom Davis
cc: Congressman Jim Moran
cc: Supervisor Gerald Hyland
cc: Supervisor T. Dana Kauffman
cc: Col. Brian W. Lortizen*

Appendix B.2
Agency Coordination

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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. Lamar Hunt, NEPA Oversight Team Leader
US Department of Transportation
400 7th St. SW, Room 3222
Washington, DC 20590

26 September 2007

Dear Mr. Hunt:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. BRAC 133's requirements include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

The purpose of this letter is to inform you of this undertaking and to ask for your input during this process if you choose. If you do so choose, the Army will periodically ask for your review and input as it proceeds with its EA. The Army is requesting that you identify any issues that are likely to have an impact on environmental, sociological, or economic resources, or to be controversial during the planning process.

In addition to evaluation of a No Action Alternative, the EA will consider a range of alternatives. As a result of the Record of Decision (ROD) published on August 10, 2007 for the *Environmental Impact Statement (EIS) for Implementation of 2005 BRAC Recommendations and Related Actions at Fort Belvoir* published in June 2007, the Army deferred its decision to locate BRAC 133 on Fort Belvoir, pending evaluation of alternative sites. The Preferred Alternative is to transfer a site owned by the General Services Administration (GSA) in Springfield, Virginia to the Army and to locate and construct administrative facilities for BRAC 133 at the site. An additional alternative being considered for analysis in the EA is use of the "Victory Center" site located at 5001 Eisenhower Avenue in Alexandria, Virginia. Figure 1 shows the locations of both sites. Locations on Fort Belvoir's Main Post and Engineer Proving Ground (EPG) have already been evaluated in the EIS.

It is requested that your input be provided within 30 days of receipt of this letter if you are interested in this matter. If you have any questions or require further information regarding the BRAC action at Fort Belvoir, please contact COL Mark

Moffatt, Deputy Garrison Commander for Transformation and BRAC, at 703-805-1660
or mark.moffatt@conus.us.army.mil.

Sincerely,

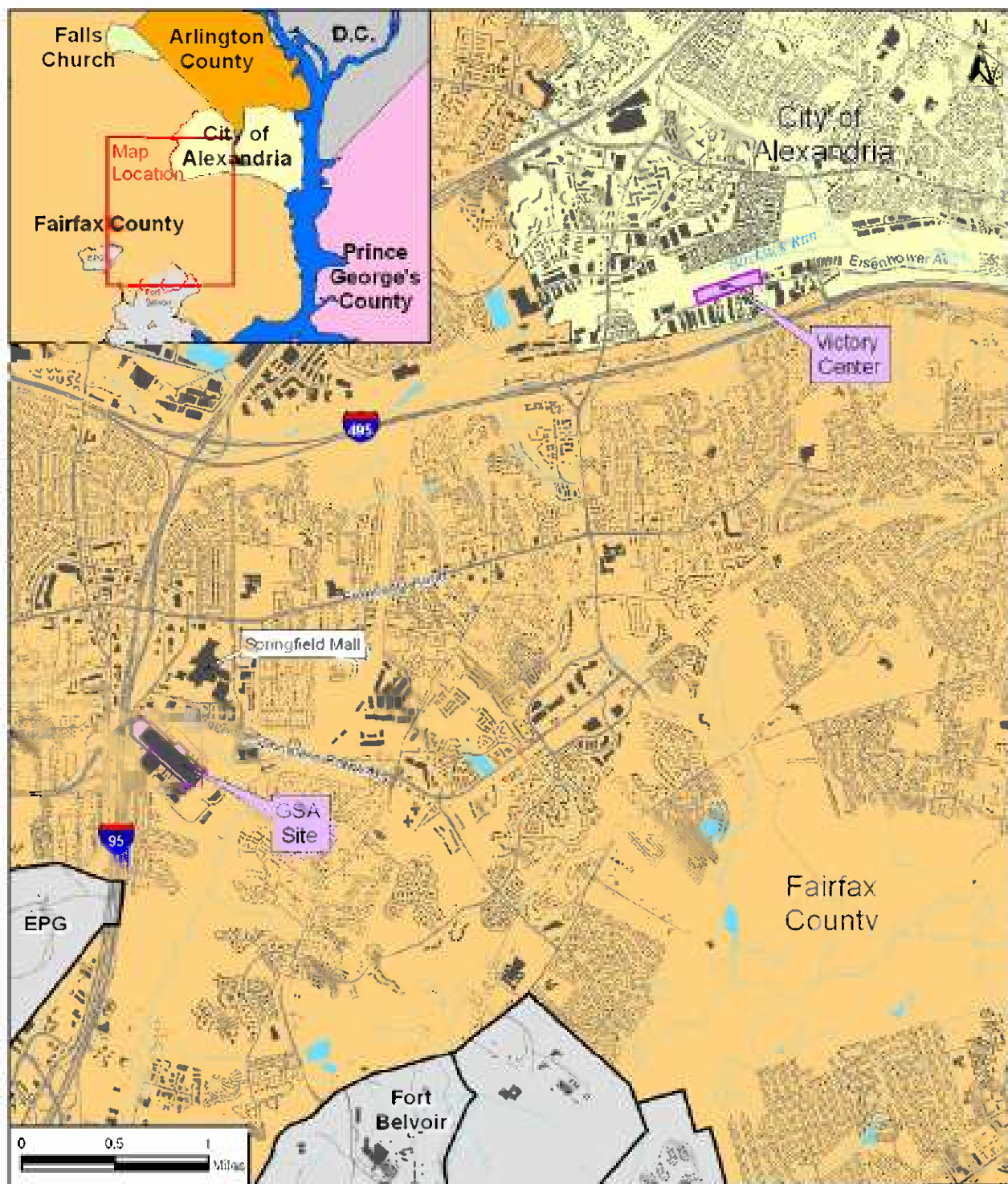
A handwritten signature in black ink, appearing to read "H. T. Landwermeyer, Jr.", written in a cursive style.

H. T. Landwermeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



LEGEND

- Alternative Site Boundary
- City of Alexandria
- Fairfax County

BRAC 133 Alternative Site Locations

Source: Fairfax County GIS, 2006; City of Alexandria GIS, 2007

Figure 1



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Karen Mayne
U.S. Department of the Interior
Fish and Wildlife Service, Ecological Services
6669 Short Lane
Gloucester, VA 23061

26 September 2007

Dear Ms. Mayne:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

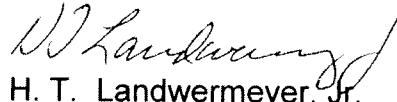
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Moffatt, Deputy Garrison Commander for Transformation and BRAC, at 703-805-1660 or mark.moffatt@conus.us.army.mil.

Sincerely,

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H. T. Landwermeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

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Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Dr. Wenonah G. Haire
Tribal Historic Preservation Officer
Catawba Indian Nation
PO Box 750
Rock Hill, SC 29731

26 September 2007

Dear Dr. Haire:

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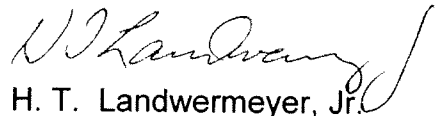
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Brigadier General, USA
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Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. Willie R. Taylor, Director
U.S. Department of the Interior
Office of Environmental Policy and Compliance
1849 C Street, NW, Room 2342
Washington, DC 20240

26 September 2007

Dear Mr. Taylor:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

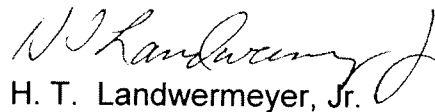
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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. William Arguto, NEPA-Federal Facilities
U.S. Environmental Protection Agency Region 3
Attn: 3EA30 - NEPA
1650 Arch Street
Philadelphia, PA 19103-2029

26 September 2007

Dear Mr. Arguto:

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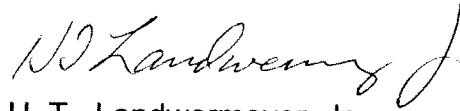
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Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Lisa Stopp
THPO/NAGPRA Representative
United Keetoowah Band of Cherokee Indians in Oklahoma
PO Box 189
Park Hill, OK 74431

26 September 2007

Dear Ms. Stopp:

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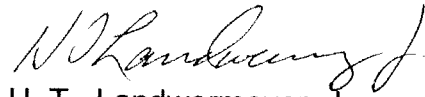
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Brigadier General, USA
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Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
800 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. John Nichols
National Marine Fisheries Service
Habitat Conservation Division
904 South Morris St.
Oxford, MD 21654

26 September 2007

Dear Mr. Nichols:

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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. Bill Bolger
National Park Service
200 Chestnut Street Room 370
Philadelphia, Pennsylvania 19106

26 September 2007

Dear Mr. Bolger:

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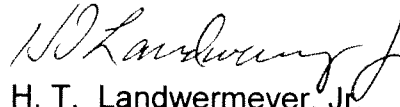
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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. Richard Hill
NAGPRA Representative
Tuscarora Nation of New York
2235 Mount Hope Rd
Sanborn, NY 14123

26 September 2007

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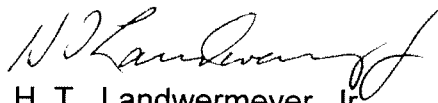
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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Denise Doetzer, State Conservationist
USDA, Natural Resources Conservation Service
1606 Santa Rosa Rd, Suite 209
Richmond, VA 23229-5014

26 September 2007

Dear Ms. Doetzer:

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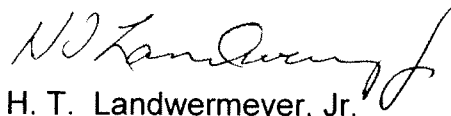
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DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. Robert Hargrove, Division Director
U.S. Environmental Protection Agency
Office of Federal Activities
1200 Pennsylvania Avenue, NW, Room 7241
Washington, DC 20044

26 September 2007

Dear Mr. Hargrove:

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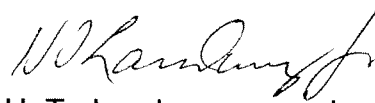
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It is requested that your input be provided within 30 days of receipt of this letter if you are interested in this matter. If you have any questions or require further information regarding the BRAC action at Fort Belvoir, please contact COL Mark

Moffatt, Deputy Garrison Commander for Transformation and BRAC, at 703-805-1660
or mark.moffatt@conus.us.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "H. T. Landwormeyer, Jr.", written in a cursive style.

H. T. Landwormeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Karenne Wood
Virginia Council on Indians
PO Box 1475
Richmond, VA 23218

26 September 2007

Dear Ms. Wood:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

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H. T. Landwormeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:
Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street
Richmond, VA 23219

26 September 2007

Dear Ms. Hypes:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

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Sincerely,

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H. T. Landwermeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Ellie Irons, Program Manager
Virginia Department of Environmental Quality
PO Box 10009
Richmond, VA 23219

26 September 2007

Dear Ms. Irons:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

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H. T. Landwermeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Ms. Kathy Graham
Virginia Department of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23

26 September 2007

Dear Ms. Graham:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

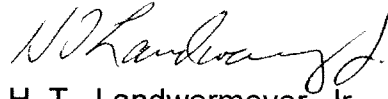
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H. T. Landwormeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.

DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600



Mr. Marc Holma, Architectural Historian

Department of Historic Resources

2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

The Department of the Army is preparing an Environmental Assessment (EA) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing Base Realignment and Closure (BRAC) Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services (WHS), a Department of Defense agency) at Fort Belvoir. The requirements for BRAC 133 include approximately 1.5 million square feet of office space and 3,720 parking spaces for 6,200 personnel. The EA will assess a reasonable range of siting alternatives as well as a No Action Alternative. Compliance with the National Historic Preservation Act will be conducted separately from this NEPA process. The proposed NEPA action is briefly described in this letter.

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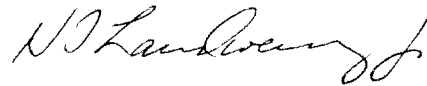
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26 September 2007

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H. T. Landwormeyer, Jr.
Brigadier General, USA
Director, Operations

Enclosure(s)

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.

L. Preston Bryant, Jr.
Secretary of Natural Resources



Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

217 Governor Street
Richmond, Virginia 23219-2010
(804) 786-7951 FAX (804) 371-2674

October 15, 2007

IL T. Landwermeyer, Jr.
Department of the Army
600 Army Pentagon
Washington, DC 20310-0600

Re: BRAC 133 Site Alternatives

Dear Mr. Landwermeyer:

The Department of Conservation and Recreation (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources in the project areas. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

Additionally, our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinities.

Any absence of data may indicate that the project areas have not been surveyed, rather than confirm that the areas lack additional natural heritage resources. New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in this letter. Their database may be accessed from http://www.dgif.virginia.gov/wildlife/info_map/index.html, or contact Shirl Dressler at (804) 367-6913.

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in cursive script that reads "Michelle E. Edwards". The signature is written in dark ink and is positioned above the printed name.

Michelle E. Edwards
Locality Liaison

From: Amy.Ewing@dgif.virginia.gov [mailto:Amy.Ewing@dgif.virginia.gov]
Sent: Friday, November 02, 2007 9:47 AM
To: Moffatt, Mark COL MIL USA IMCOM
Subject: ESSLog# 24464_BRAC actions Ft. Belvoir_GSA Site and Victory Center

We have reviewed the subject project locations in Fairfax County and Alexandria County. It appears, from the information provided, that the GSA Site and Victory Center may be the sites of BRAC actions such as increase of office space and parking for personnel.

GSA Site:

According to our records, Accotink Creek, downstream of this project location, has been designated an Anadromous Fish Use Area and is also known to support state special concern bridle shiner. Depending on the scope and location of proposed water impacts in the tributary to Accotink Creek that is located on/near the GSA site, we may recommend actions protective of this resource.

Victory Center:

According to our records, Cameron Run, downstream of this project location, has been designated an Anadromous Fish Use Area. Depending on the scope and location of proposed water impacts in the tributary to Cameron Run that is located on/near the GSA site, we may recommend actions protective of this resource.

Overall Recommendations:

We recommend conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams to isolate the construction area, blocking no more than 50% of the streamflow at any given time, stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, we prefer stream crossings to be constructed via clear-span bridges. However, if this is not possible, we recommend countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms. We also recommend the installation of floodplain culverts to carry bankfull discharges.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: We recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. Avoidance and minimization of impact may include relocating stream channels as opposed to filling or channelizing as well as using, and incorporating into the development plan, a natural stream channel design and wooded buffers. We recommend maintaining undisturbed wooded buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining wooded lots to the fullest extent possible. We generally do not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor do we support the creation of in-stream stormwater management ponds. We are willing to assist the applicant in developing a plan that includes open-space, wildlife habitat, and natural stream channels which retain their wooded buffers.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend continued coordination with our agency regarding these actions. Thank you.

Amy M. Ewing
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230
804-367-2211
amy.ewing@dgif.virginia.gov



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Directorate of Operations

26 OCT 07

SUBJECT: Section 106 Consultation, BRAC 133

Marc Holma
Office of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Dear Mr. Holma,

The Army is completing an Environmental Assessment (EA) for Base Realignment and Closure Act (BRAC) Recommendation No. 133. Base Realignment and Closure (BRAC) Recommendation 133 involves realigning approximately 6,200 personnel and various units, agencies, and activities of the Department of Defense, Defense Agency, and Field Activities, that are currently located in leased facilities within the National Capital Region.

The Army is evaluating two alternative locations for the BRAC 133 relocation. One alternative is the 17-acre Victory Center site in Alexandria, which consists of an existing institutional style office building constructed in 1973 that is currently undergoing renovation. The existing building has no known historical associations or architectural attributes that would qualify it for consideration for the National Register of Historic Places under Criterion G. It is the only building on the site and there are no historic structures in the surrounding area. An archaeological assessment of the property was prepared by Louis Berger and Associates in 2006 (enclosed), which determined that the property contained no potential for archaeological remains. Alexandria Archaeology has concurred with this recommendation (enclosed). The Army concurs with the reports determination.

The other alternative is a General Services Administration (GSA) Warehouse site located in Springfield, Virginia. This 69.5 acre property includes several buildings that are greater than 50 years in age. In October 2007 the Army performed both architectural and archeological surveys of the GSA Warehouse site and determined that there are no National Register eligible architectural or archeological properties present (reports enclosed).


The Department of the Army has applied the National Register criteria to the Victory Center site and the GSA Warehouse site and determined that there are no National Register eligible properties present. Subsequently, the Department of the Army has determined that no historic properties will be affected by the relocation of BRAC 133 to either site.

Please provide comment on our determination of no historic properties affected in accordance with 36 CFR 800.4(d)(1). If we do not receive your comments within 30 days we will assume concurrence.

Copies of this correspondence have been supplied to the Catawba Indian Nation, the Tuscarora Nation of New York, the United Keetoowah Band of Cherokee Indians in Oklahoma, Fairfax County Department of Planning and Zoning, and the City of Alexandria.

If you have questions or comments on these documents, please forward those to my attention.

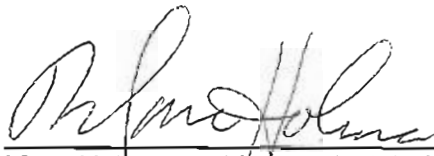
Sincerely,



H.T. Landwormeyer, Jr.
Brigadier General, U.S. Army
Director, Operations

3 Enclosures

I have reviewed this project, DHR File number 2007-1593; BRAC 133. I concur do not concur with the Army's finding of "No Historic Properties Affected."



Marc Holma, Architectural Historian
Office of Review and Compliance
Virginia Department of Historic Resources

2 DEC 07
Date

Please return this form via fax or hard copy to:

US Army
Patrick McLaughlin
Chief, Environmental and Natural Resource Division
9430 Jackson Loop Road, Suite 100
Fort Belvoir, VA 22060

Fax: (703) 806 0622



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

31 DEC 07

Ms. Karen Mayne
U.S. Department of the Interior
Fish and Wildlife Service, Ecological Services
6669 Short Lane
Gloucester, VA 23061

Dear Ms. Mayne:

The purpose of this letter is to inform you of an additional alternative added to the Environmental Assessment (EA) being prepared pursuant to Section 102(2)(C) of the National Environmental Policy Act that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing BRAC Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services [WHS], a Department of Defense agency) at Fort Belvoir.

The additional alternative that should also be considered in the EA is an 11-acre "Mark Center" site at Seminary Road, Alexandria, Virginia. Figure 1 in the enclosure shows the location of all the alternatives currently being evaluated in the EA. We request that you identify any issues that are likely to have an impact on environmental, sociological, or economic resources, or that may be controversial during the planning process.

This additional alternative was identified as result of the a November 2007 request for other potential alternative sites for BRAC 133, and is in addition to the two alternative sites previously identified in the September 24, 2007 notice. These two previously identified sites are: 1) General Services Administration [GSA] site, Springfield, Virginia, and 2) "Victory Center" building site, 5001 Eisenhower Avenue in Alexandria, Virginia.

We request you provided input within 30 days of receipt of this letter if you are interested in this matter. If you have any questions or require further information regarding the BRAC action at Fort Belvoir, please contact COL Mark Moffatt, Deputy Garrison Commander for Transformation and BRAC, at 703-805-1660 or mark.moffatt@conus.us.army.mil.

Sincerely,

H. T. Landwormeyer, Jr.
Brigadier General, U.S. Army
Director, Operations

Enclosure

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



LEGEND

- Alternative Site Boundary
- City of Alexandria
- Fairfax County

BRAC 133 Alternative Site Locations

Source: Fairfax County GIS, 2006; City of Alexandria GIS, 2007.

Figure 1



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

31 DEC 07

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street
Richmond, VA 23219

Dear Ms. Hypes:

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H. T. Landwermeyer, Jr.
Brigadier General, U.S. Army
Director, Operations

Enclosure

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.



Information Services Order Form

Please check the services desired and provide details in the spaces provided. You do not have to fill in all of the spaces in order to submit the form. Due to a technical issue, online submission is currently unavailable, please print out and mail the form to:

Project Review Coordinator

DCR Division of Natural Heritage

217 Governor St.

Richmond, VA 23219

Voice: (804) 786-7951 Fax: (804) 371-2674

The following 3 services are free of charge; however, due to staff and budget constraints we ask that you submit serious inquiries only, please.

- ☒ Rare Vascular Plant Species of Virginia
- ☒ Rare Animal Species of Virginia
- ☒ County Lists of Natural Heritage Resources (also available on our website at www.dcr.state.va.us/dnh/nhrinfo.htm).

For county lists, please specify the counties of interest:

City of Alexandria

The following services have varying charges associated with them, please read all the documentation carefully and be sure to fill in all the necessary fields.

Project Review.....\$60 per site; add \$35 for 1-5 occurrences, \$60 for 6 or more occurrences

- ☐ Project Review








Details: Describe project below, please include detailed project description, Location information, Conditions (photographs if available). Fax additional information as necessary.

In order to ensure an accurate assessment, please **fax a site map** (preferably from a USGS topo) to:

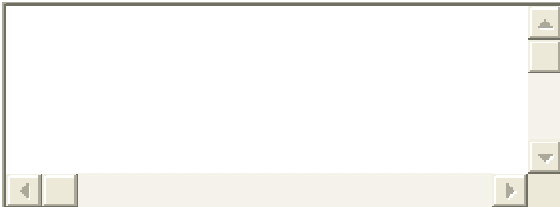
Environmental Review Coordinator @ (804) 371-2674.


Please provide data for the "Mark Center" site in Alexandria as described and shown in the attached letter and map.

Natural Heritage Resource Reports & Maps

-  County Conservation Sites Maps (specify counties).....\$20/county
-  Custom NHR Maps (describe, call for more information).....\$60/hour
-  Custom NHR Reports (describe, call for more information)....\$60/hour
-  Digital Conservation Sites Subscription Service (specify area of interest; complete [license agreement](#))
 -  Less than 1 county or 12 quads).....\$1000/yr.
 -  13-100 quads.....\$3500/yr.
 -  statewide coverage.....\$6000/yr.

Please provide details below:



-
-  **Priority Service**(3 day turnaround).....\$200 surcharge
-

Conditions:

1. Digitized DCR natural heritage resource locational data for GIS or map production, whether provided by DCR digitally or entered by the client from tables or reports, may not be used without first completing a data licensing agreement with DCR Division of Natural Heritage. A License form is available [here](#).
2. Although DCR-DNH data are closely quality controlled, DCR-DNH makes no warranty as to the fitness of the data for any purpose.
3. Any publication of data provided by DCR, whether as text, table or map, must acknowledge *Virginia DCR-Natural Heritage Program*, and include the date the data were provided by DCR.
4. If fees are assessed, an invoice will be included with the response. Payment is due within 30 days of receipt. **Minimum charge for hourly fees is \$60.**

I understand and agree to the above conditions: ☒ Yes

Send data and invoice (if applicable) to:

(Please be sure to include a phone number so we may contact you if we have any questions regarding your data needs)

Name: Patrick Solomon

Email: patrick.solomon@tetrattech.com

Company: Tetra Tech, Inc.

Address: 10306 Eaton Place, Suite 340

City: Fairfax

State: VA

Zip Code: 22030

Phone: 703-385-6000

Taxpayer ID#:

Clear Form

[Go back to the Information Services page](#)

Return to the Virginia Natural Heritage Program [home page](#)



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

31 DEC 07

Ms. Kathy Graham
Virginia Department of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230

Dear Ms. Graham:

The purpose of this letter is to inform you of an additional alternative added to the Environmental Assessment (EA) being prepared pursuant to Section 102(2)(C) of the National Environmental Policy Act that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing BRAC Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services [WHS], a Department of Defense agency) at Fort Belvoir.

The additional alternative that should also be considered in the EA is an 11-acre "Mark Center" site at Seminary Road, Alexandria, Virginia. Figure 1 in the enclosure shows the location of all the alternatives currently being evaluated in the EA. We request that you identify any issues that are likely to have an impact on environmental, sociological, or economic resources, or that may be controversial during the planning process.

This additional alternative was identified as result of the a November 2007 request for other potential alternative sites for BRAC 133, and is in addition to the two alternative sites previously identified in the September 24, 2007 notice. These two previously identified sites are: 1) General Services Administration [GSA] site, Springfield, Virginia, and 2) "Victory Center" building site, 5001 Eisenhower Avenue in Alexandria, Virginia.

We request you provided input within 30 days of receipt of this letter if you are interested in this matter. If you have any questions or require further information regarding the BRAC action at Fort Belvoir, please contact COL Mark Moffatt, Deputy Garrison Commander for Transformation and BRAC, at 703-805-1660 or mark.moffatt@conus.us.army.mil.

Sincerely,

H. T. Landwermeyer, Jr.
Brigadier General, U.S. Army
Director, Operations

Enclosure

CF:

Susan Holtham, BRAC NEPA Support Team

Patrick Solomon, Tetra Tech, Inc.



DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

Mr. Marc Holma, Architectural Historian
Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221

31 DEC 07

Dear Mr. Holma:

The purpose of this letter is to inform you of an additional alternative added to the Environmental Assessment (EA) being prepared pursuant to Section 102(2)(C) of the National Environmental Policy Act that will evaluate potential environmental, transportation, and socioeconomic effects associated with implementing BRAC Commission Recommendation 133 (primarily agencies associated with the Washington Headquarters Services [WHS], a Department of Defense agency) at Fort Belvoir.

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Sincerely,

H. T. Landwermeyer, Jr.
Brigadier General, U.S. Army
Director, Operations

Enclosure

CF:

Susan Holtham, BRAC NEPA Support Team
Patrick Solomon, Tetra Tech, Inc.

L. Preston Bryant, Jr.
Secretary of Natural Resources



Joseph H. Maroon
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

217 Governor Street
Richmond, Virginia 23219-2010
(804) 786-7951 FAX (804) 371-2674

January 31, 2008

Patrick Solomon
Tetra Tech, Inc
10306 Eaton Place, Suite 340
Fairfax, VA 22030

Re: Mark Center

Dear Mr. Solomon:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources in the project vicinity. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

In addition, our files do not indicate the presence of any State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

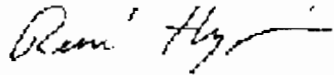
New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

A fee of \$60.00 has been assessed for the service of providing this information. Please find enclosed an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, Department of Conservation and Recreation, 203 Governor Street, Suite 423D, Richmond, VA 23219, ATTN: Cashier. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

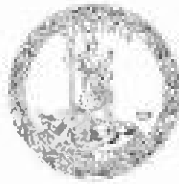
The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, which may contain information not documented in this letter. Their database may be accessed from http://www.dgif.virginia.gov/wildlife/info_map/index.html , or contact Shirl Dressler at (804) 367-6913.

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "René Hypes", with a stylized flourish at the end.

S. René Hypes
Project Review Coordinator



COMMONWEALTH of VIRGINIA

L. Preston Bryant, Jr.
Secretary of Natural Resources

Department of Game and Inland Fisheries

Robert W. Duncan
Executive Director

February 29, 2008

H. T. Landwermyer, Jr.
Brigadier General, U.S. Army
Director, Operations
Department of the Army
Assistant Chief of Staff for Installation Management
600 Army Pentagon
Washington, DC 20310-0600

RE: Re-review of ESSLOG #24004, Potential Alternative Sites for BRAC 133 at Fort Belvoir, Fairfax County and City of Alexandria, VA.

Dear General Landwermyer:

This letter is in response to your request for updated information related to the presence of threatened or endangered species in the vicinity of the above referenced project.

The Mark Center and the Victory Center sites are adjacent to tributaries to a portion of Cameron Run that is designated a Potential Anadromous Fish Use Area. As well, The GSA Site is within 0.5 mile of a tributary to a portion of Accotink Creek that is designated a Confirmed Anadromous Fish Use Area. This designation is due to documented occurrences of the following anadromous and semi-anadromous species: alewife and yellow perch. Therefore, the applicant should coordinate with the VDGIF Environmental Services Section (804-367-6913) concerning potential impacts to these resources.

In addition, the following *state special concern* species have been documented within 1.5 miles of the GSA Site: bridge shiner (*Notropis bifrenatus*) and northern saw-whet owl (*Aegolius acadicus*). As well, a block survey of an area encompassing the Mark Center and the Victory Center documented the *state special concern* great egret (*Ardea alba*) during the breeding season. However, the classification of *state special concern* is not a legal designation and does not require further coordination. Additionally, please note that the project areas are potentially within 2 miles of George Washington Memorial National Parkway, which is a National Park Service property.

Information about fish and wildlife species was generated from our agency's computerized Fish and Wildlife Information System, which describes animals that are known or may occur in a particular geographic area. Field surveys may be necessary to determine the presence or absence of some of

H. T. Landwehrmeyer, Jr.
ESSLog #24004 (re-review)
2/29/2008
Page 2

these species on or near the proposed area. Also, additional sensitive animal species may be present, but their presence has not been documented in our information system.

Endangered plants and insects are under the jurisdiction of the Virginia Department of Agriculture and Consumer Services, Bureau of Plant Protection. Questions concerning sensitive plant and insect species occurring at the project site should be directed to Keith Tignor at (804) 786-3515.

The Virginia Department of Conservation and Recreation, Natural Heritage Program, maintains a database of natural heritage resources, including the habitat of rare, threatened, or endangered plant and animal species, unique exemplary natural communities, and significant geologic formations, that may contain information not documented in this letter. Their database may be accessed from <http://www.dcr.state.va.us/dnh/nhrinfo.htm>, or by contacting S. Rene Hypes at (804) 371-2708.

This letter summarizes the likelihood of the occurrence of endangered or threatened animal species at the project site. If you have more questions in this regard, please contact me at (804) 367-1185.

Please note that this response does not constitute consultation or management recommendations regarding endangered or threatened wildlife, or any other environmental concerns. These issues are analyzed by our Environmental Services Section, in conjunction with interagency review of applications for state and federal permits. If you have any questions in this regard, please contact the Environmental Services Section at (804) 367-6913.

Please note that the data used to develop this response are continually updated. Therefore, if significant changes are made to your project or if the project has not begun within 6 months of receiving this letter, then the applicant should request a new review of our data.

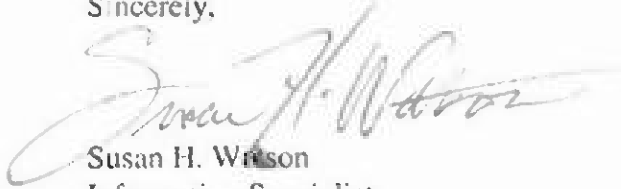
For your reference, if you do not receive a response from our office within 30 days, this does not constitute a finding of "no adverse impact" to wildlife or wildlife resources. If you need an expedited response to your request, please call Shirl Dressler at (804) 367-6913.

The Fish and Wildlife Information Service, the system of databases used to provide the information in this letter, can now be accessed via the Internet! The Service currently provides access to current and comprehensive information about all of Virginia's fish and wildlife resources, including those listed as threatened, endangered, or special concern; colonial birds; waterfowl; trout streams; and all wildlife. Users can choose a geographic location and generate a report of species known or likely to occur around that point. From our main web page, at www.dgif.virginia.gov, choose the hyperlink titled "Virginia Fish and Wildlife Information Service". For more information about the service, please contact Shirl Dressler at (804) 367-6913.

H. T. Landwermeyer, Jr.
ESSLog #24004 (re-review)
2/29/2008
Page 3

Thank you for your interest in the wildlife resources of Virginia.

Sincerely,

A handwritten signature in cursive script, appearing to read "Susan H. Wilson", written in dark ink.

Susan H. Wilson
Information Specialist

cc: R.T. Fernald, VDGIF
R. Hypes, VDCR-NH

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Appendix C

Coastal Zone Management Act (CZMA) Consistency Determination for the Proposed Implementation of BRAC 133

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Coastal Zone Management Act (CZMA) Consistency Determination For Proposed Implementation of BRAC 133

This document provides the Commonwealth of Virginia with the BRAC 133 Consistency Determination under CZMA section 307(c) (1) and 15 CFR Part 930, sub-part C, for implementation of BRAC 133 actions. The information in this Consistency Determination is provided pursuant to 15 CFR section 930.39. The proposed action involves those activities described below.

[The following paragraphs of text summarize the proposed federal activity. A full description of the proposed activity may be found in the Environmental Assessment for the Implementation of 2005 Base Realignment and Closure Recommendation 133 at Fort Belvoir, Virginia, which is incorporated by reference into this Consistency Determination].

This federal Consistency Determination identifies consistency with state and federal CZMA regulations in evaluating realigning the units, agencies, and activities known as BRAC Commission Recommendation No. 133 (BRAC 133) to Fort Belvoir, Virginia. The various elements of BRAC 133, which consists of miscellaneous Department of Defense (DoD), Defense Agency, and Field Activities, are currently located in leased facilities within the National Capital Region (NCR).

Alternatives for siting BRAC 133 facilities at Fort Belvoir's Main Post or Engineer Proving Ground (EPG) have been developed previously (USACE, 2007a). Three additional alternatives discussed in this document are as follows. BRAC 133 would be sited either on a site owned by the General Services Administration (GSA) in Springfield, Virginia, on a site on Eisenhower Avenue in Alexandria, Virginia, known as the Victory Center, or on a site on Seminary Road in Alexandria known as the Mark Center. Construction and operation of facilities to support approximately 6,409 additional personnel related to WHS would result in up to 1.8 million square feet of new or renovated built space and about 1.3 million square feet of parking structures.

Consistency Determination

The Virginia Coastal Resources Management Program (VCP) contains the applicable enforceable policies in the left column of the table in the following pages. The Army has determined that the implementation of the BRAC Commission's recommendations would have no or minor effects on the land or water uses or natural resources of Virginia as described in the right column of the table. This column also identifies actions in accordance with federal and state regulations that would minimize or offset effects. In its comments on the *Draft Environmental Impact Statement (EIS) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendation and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007a) and the *Draft General Conformity Determination (GCD) for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007b), VDEQ objected to the Army's determination of consistency on the basis of insufficient information required to determine the consistency of the proposed BRAC projects with the Air Pollution Control enforceable policy of the VCP. To mitigate these concerns, the Army has identified additional mitigation measures for air quality that were specified in Section 4.4.2.3 of the EIS that were approved by VDEQ. Similar mitigation measures would be employed for BRAC 133 under the GSA site alternative, and the Army would continue coordination with VDEQ to work out the specific measures required to achieve conformity and consistency with the state's enforceable Coastal Zone Management policies. Unlike the GSA site alternative, the Victory Center and Mark Center alternatives were unforeseeable alternatives at the time the Fort Belvoir BRAC GCD was written and therefore are distinctly different activities from the situation outlined in the GCD. Emissions would not exceed *de minimis* thresholds under these two

alternatives, therefore, the Army would not need to implement mitigation measures (apart from best management practices [BMPs]) to reduce the air quality impacts.

Based upon the information, data, and analysis, as contained in the EA, the Army finds that the proposed action is consistent to the maximum extent practicable with the enforceable policies of the VCP. Pursuant to 15 CFR Section 930.41, the Virginia Coastal Resources Management Program has 60 days from the receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41(b).

Virginia's concurrence will be presumed if its response is not received by the Army on the 60th day from receipt of this determination. The Commonwealth's response should be sent to Fort Belvoir BRAC, ATTN: BRAC 133 EA Comments, 10306 Eaton Place, Suite 340, Fairfax, Virginia, 22030 (or by e-mail at brac133ecomments@tetrattech.com).

Applicable Enforceable Policy	Effects of the Federally Proposed Action
<p>Fisheries Management</p> <p>The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Virginia Marine Resources Commission (VMRC) (Virginia Administrative Code (VAC) §28.2-200 to §28.2-713) and the Virginia Department of Game and Inland Fisheries (VDGIF) (VAC §29.1-100 to §29.1-570).</p> <p>The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, VDGIF, and Virginia Department of Agriculture and Consumer Services (VDACS) share enforcement responsibilities (VAC §3.1-249.59 to §3.1-249.62).</p>	<p>NO EFFECT</p> <p>The proposed action would not involve building, dumping, or otherwise trespassing on or over, encroaching on, taking or using any material from the beds of the bays, ocean, rivers, streams, or creeks within Virginia. The proposed action would not have a reasonably foreseeable effect on fish spawning, nursery, or feeding grounds, and therefore none on fisheries management.</p> <p>No paints containing TBT will be used under this proposed action.</p>
<p>Subaqueous Lands Management</p> <p>The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by VDEQ, Water Division. The program is administered by VMRC (VAC §28.2-1200 to §28.2-1213).</p>	<p>NO EFFECT</p> <p>No subaqueous land use is proposed under this action. This project involves no encroachments in, on, or over state-owned submerged lands.</p>

<p>Wetlands Management</p> <p>The purpose of the wetlands management program is to preserve tidal wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.</p> <p>(i) The tidal wetlands program is administered by VMRC (VAC §28.2-1301 through §28.2-1320).</p> <p>(ii) The Virginia Water Protection Permit program administered by VDEQ includes protection of wetlands—both tidal and non-tidal. This program is authorized by VAC §62.1-44.15.5 and the Water Quality Certification requirements of Section 401 of the Clean Water Act of 1972.</p>	<p>NO EFFECT</p> <p>The proposed action would not affect any tidal wetlands or non-tidal wetlands. The Army would prepare and adhere to a Sediment and Erosion Control Plan to prevent sedimentation from entering surface waters (see non-point source pollution control section below) and downstream wetlands and Resource Protection Areas (RPAs) prior to initiation of construction activities.</p>
<p>Dunes Management</p> <p>Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by VMRC (VAC §28.2-1400 through §28.2-1420).</p>	<p>NO EFFECT</p> <p>No permanent alteration of or construction upon any coastal primary sand dune will take place under the proposed action.</p>
<p>Non-point Source Pollution Control</p> <p>Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Virginia Department of Conservation and Recreation (VDCR) (VAC §10.1-560 et seq.).</p>	<p>MINOR EFFECT</p> <p>Siting of BRAC 133 facilities would require a moderate amount of ground disturbance for demolition of existing structures under the GSA site alternative, and land forming activities and construction of new facilities under any of the alternatives. Construction and/or operational activities may be required to comply with Fort Belvoir's Storm Water Pollution Prevention Plan (SWPPP) and Virginia Pollutant Discharge Elimination System (VPDES) Municipal Sanitary Storm Sewer Systems (MS4) permit requirements. Construction contractors would use phase erosion, sediment control, and post-construction BMPs as effective storm water controls. Site-specific storm water management plans developed by the construction contractors will provide information relevant to each activity.</p>

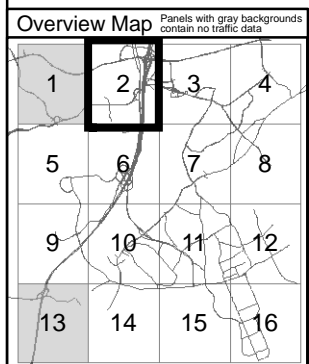
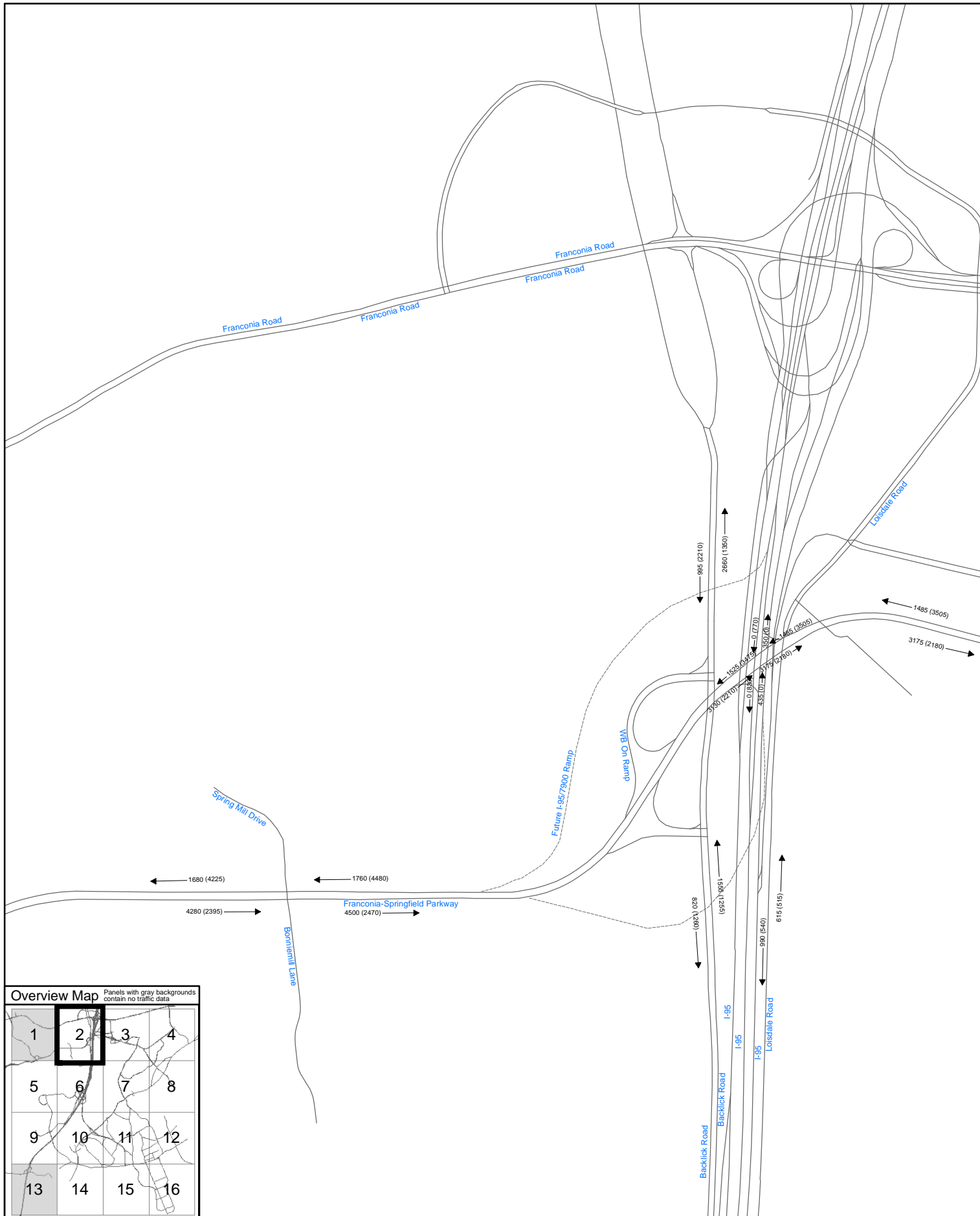
<p>Point Source Pollution Control</p> <p>The point source program is administered by the State Water Control Board pursuant to VAC §62.1-44.15. Point source pollution control is accomplished through the implementation of the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the VPDES permit program.</p>	<p>MINOR EFFECT</p> <p>Fort Belvoir holds the following VPDES permits: MS4, wastewater treatment for mobile reverse osmosis water purification units, general permit for storm water discharges from construction sites, and general permit for storm water discharges associated with industrial activities. The Army would work with VDEQ to revise the permits as necessary while the BRAC 133 program is implemented, and would adhere to all conditions of the permits. Storm water discharged through conveyances, such as separate storm sewers, ditches, channels or other conveyances are considered point sources under the Clean Water Act (CWA), and subject to regulation through the National Pollutant Discharge Elimination System (NPDES) permit program. Fort Belvoir's MS4 permit requires the contractor to comply with the installations' permit prior to construction activities. This includes submitting a sediment and erosion control plan to DPW-ENRD when more than 1 acre of ground is disturbed.</p>
<p>Shoreline Sanitation</p> <p>The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Virginia Department of Health (VAC §32.1-164 through §32.1-165).</p>	<p>NO EFFECT</p> <p>The alternative sites have a sanitary sewer system in place and do not employ septic systems.</p>

<p>Air Pollution Control</p> <p>The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan (SIP) for the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). This program is administered by the State Air Pollution Control Board (VAC §10-1.1300).</p>	<p>MINOR EFFECT</p> <p>The action would cause minor increases in emissions within the region. These increases would conform to the SIP, would not contribute to a violation of any federal, state, or local air regulations, or introduce localized carbon monoxide (CO) or particulate matter (PM) concentrations greater than the NAAQS.</p> <p>The Army developed a Construction Performance Contract Plan (CPCP) for BRAC implementation at Fort Belvoir that would include reasonable emission control measures, reporting requirements, and enforcement measures to minimize the impacts of construction activities related to the project on air quality. These would be required for the GSA site alternative for BRAC 133 and include limiting construction on Code Orange, Red, and Purple ozone days; limiting the use of off-road trucks on the project site; requiring all off-road diesel equipment not meeting Tier 2 or better standards be retrofitted with emission control devices; implementing anti-idling restrictions for both on-road and off-road vehicles and equipment; the required use of ultra-low sulfur diesel fuel, alternate fuels, or fuel additives; and meeting new engine standards for off-road vehicles.</p> <p>In addition, the Army has confirmed with the Metropolitan Washington Council of Governments' (MWCOC's) Transportation Planning Board that the most current employment and traffic projections reflecting BRAC will be incorporated into the Round 7.1 Cooperative Forecast to help facilitate their next regional transportation conformity determination for the National Capital AQCR.</p>
<p>Coastal Lands Management</p> <p>A state-local cooperative program administered by the VDCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; VAC §10.1-2100 through §10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative Code 9 VAC10-20-10 et seq.</p>	<p>MINOR EFFECT</p> <p>RPAs are present on or adjacent to all the alternative sites for BRAC 133. Plans are in place to offset the RPA overlap on the Victory Center with low impact development (LID) measures. For all alternatives, site-specific storm water management plans will be developed by the construction contractors prior to site disturbance activities, and BMPs would be developed and implemented in accordance with an on-site SWPPP.</p>

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Appendix D
Transportation Supporting Documentation

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Traffic Volumes: 2006 Typical Volumes - Link Volumes

Fort Belvoir / EPG
Fort Belvoir, Virginia



Main Map Body Scale:
0 250 500 750 1,000
Feet



Legend

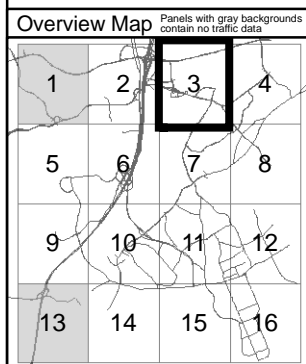
100 (60) —▶ Turning Movement Volumes: AM (PM)

— Existing Road Centerlines

--- Proposed Road Centerlines

--- Proposed Fairfax County Parkway

Fairfax County Parkway Road Name Labels



Traffic Volumes: 2006 Typical Volumes - Link Volumes

Fort Belvoir / EPG
Fort Belvoir, Virginia



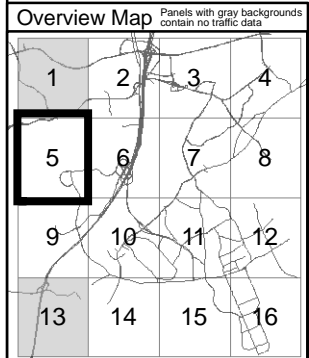
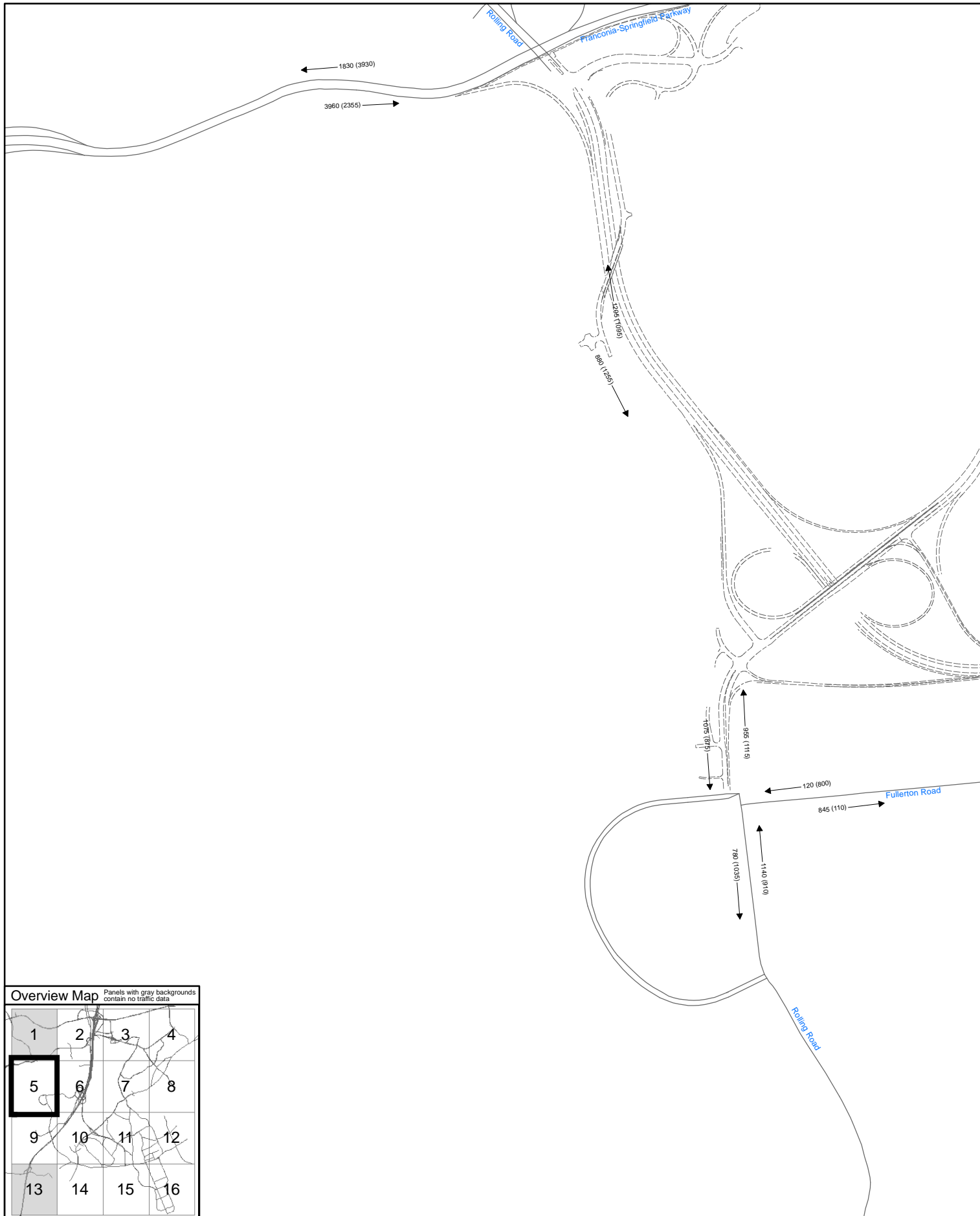
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0 250 500 750 1,000
Feet



Legend

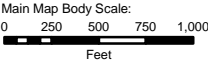
- 100 (60) —▶ Turning Movement Volumes: AM (PM)
- Existing Road Centerlines
- - - Proposed Road Centerlines
- - - Proposed Fairfax County Parkway
- Fairfax County Parkway Road Name Labels



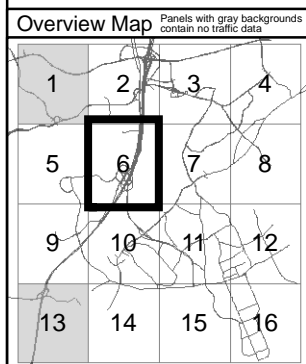
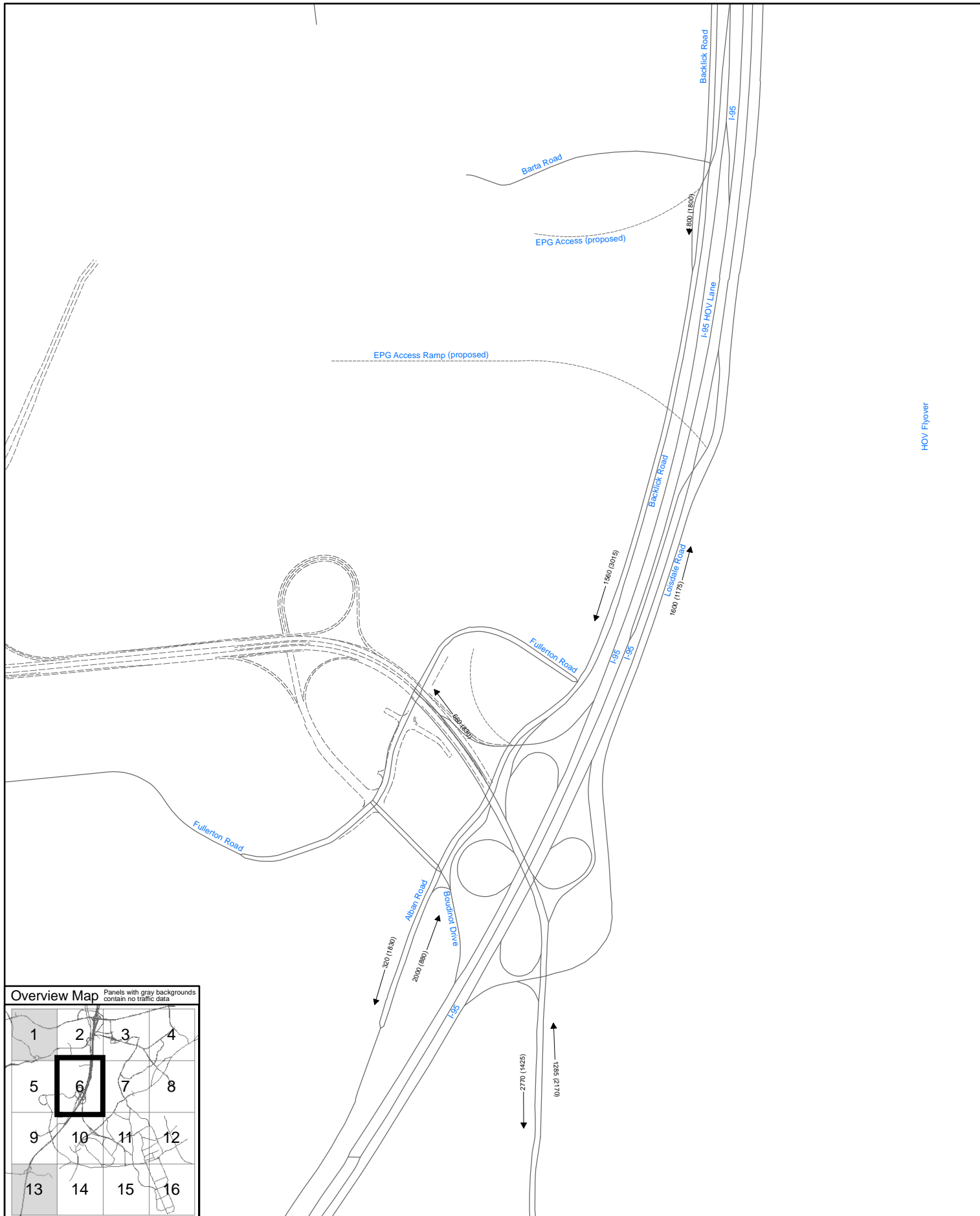


Traffic Volumes: 2006 Typical Volumes - Link Volumes

Fort Belvoir / EPG
Fort Belvoir, Virginia



- Legend**
- 100 (60) —▶ Turning Movement Volumes: AM (PM)
 - Existing Road Centerlines
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 - Road Name Labels



Traffic Volumes: 2006 Typical Volumes - Link Volumes

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Fort Belvoir, Virginia

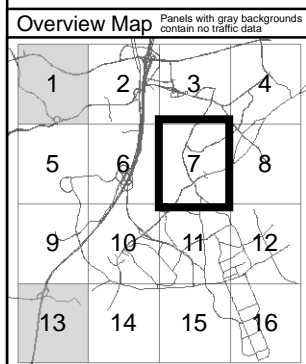
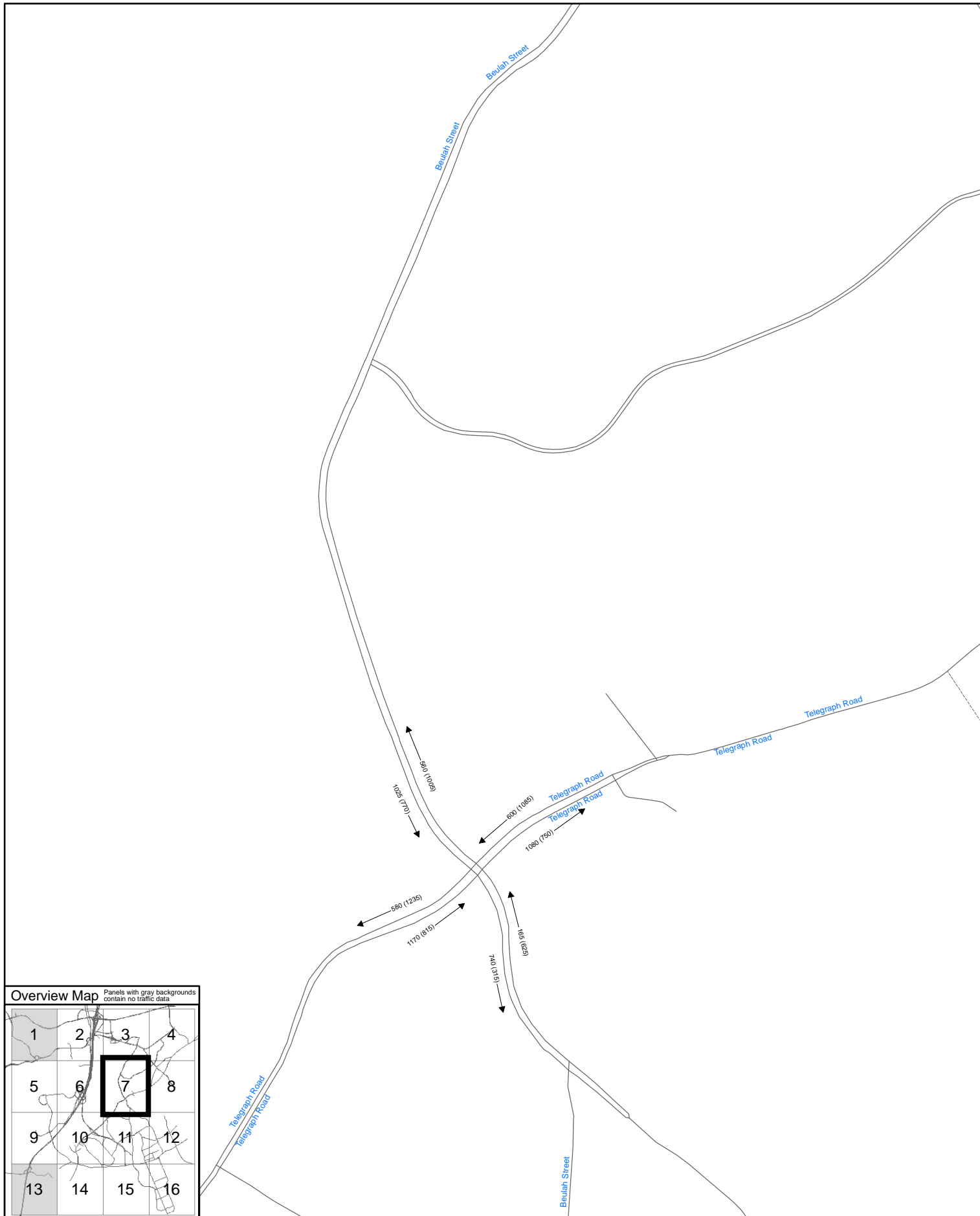


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Legend

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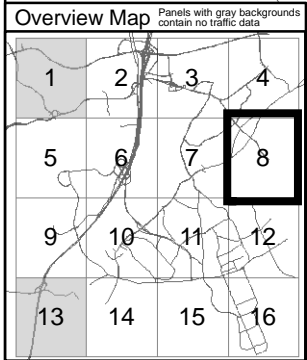
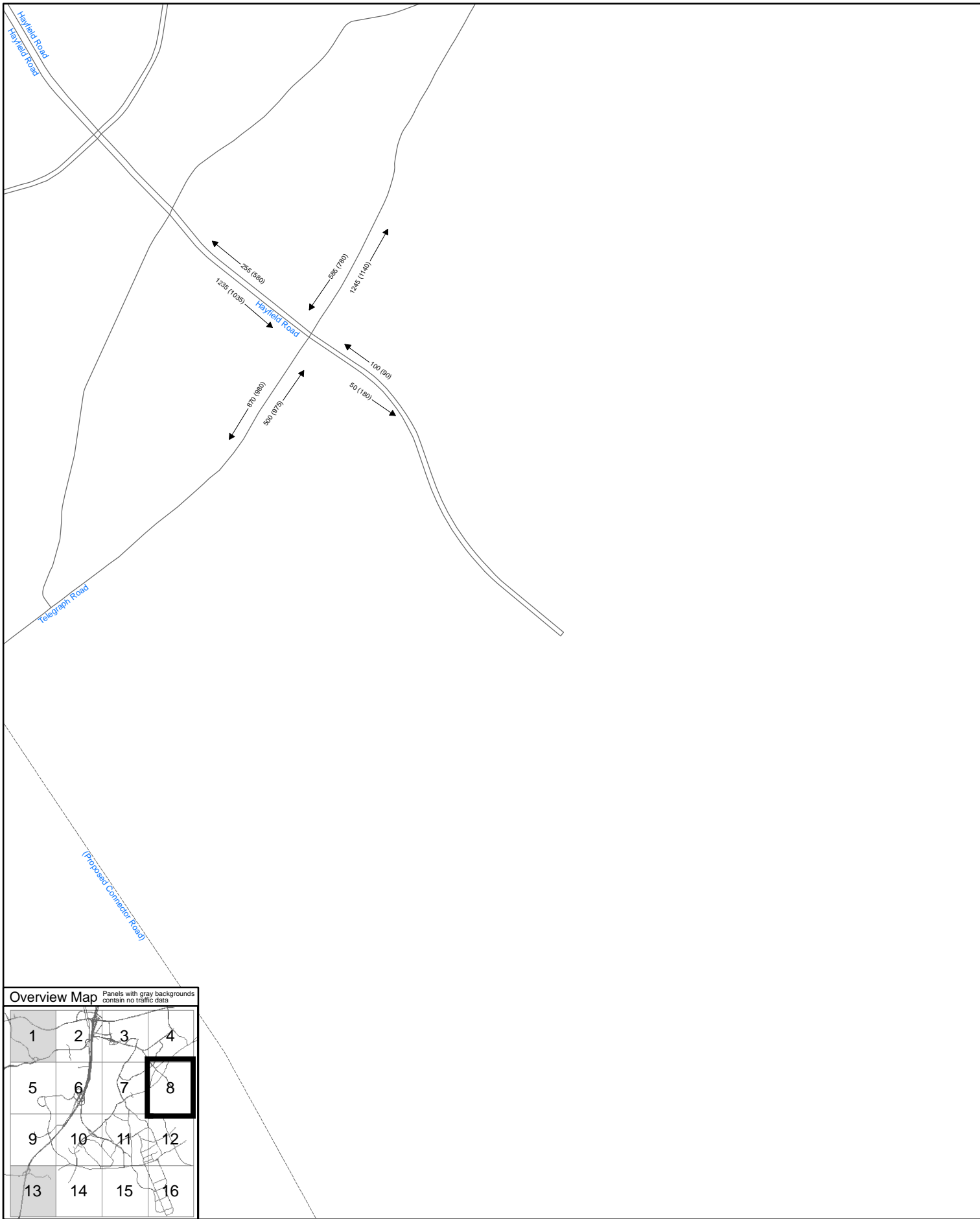


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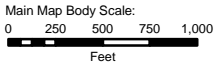


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Fort Belvoir / EPG
Fort Belvoir, Virginia



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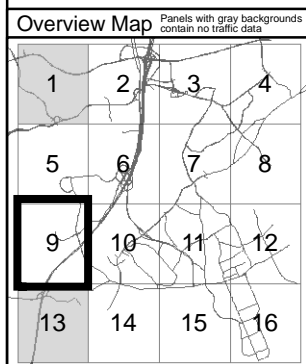
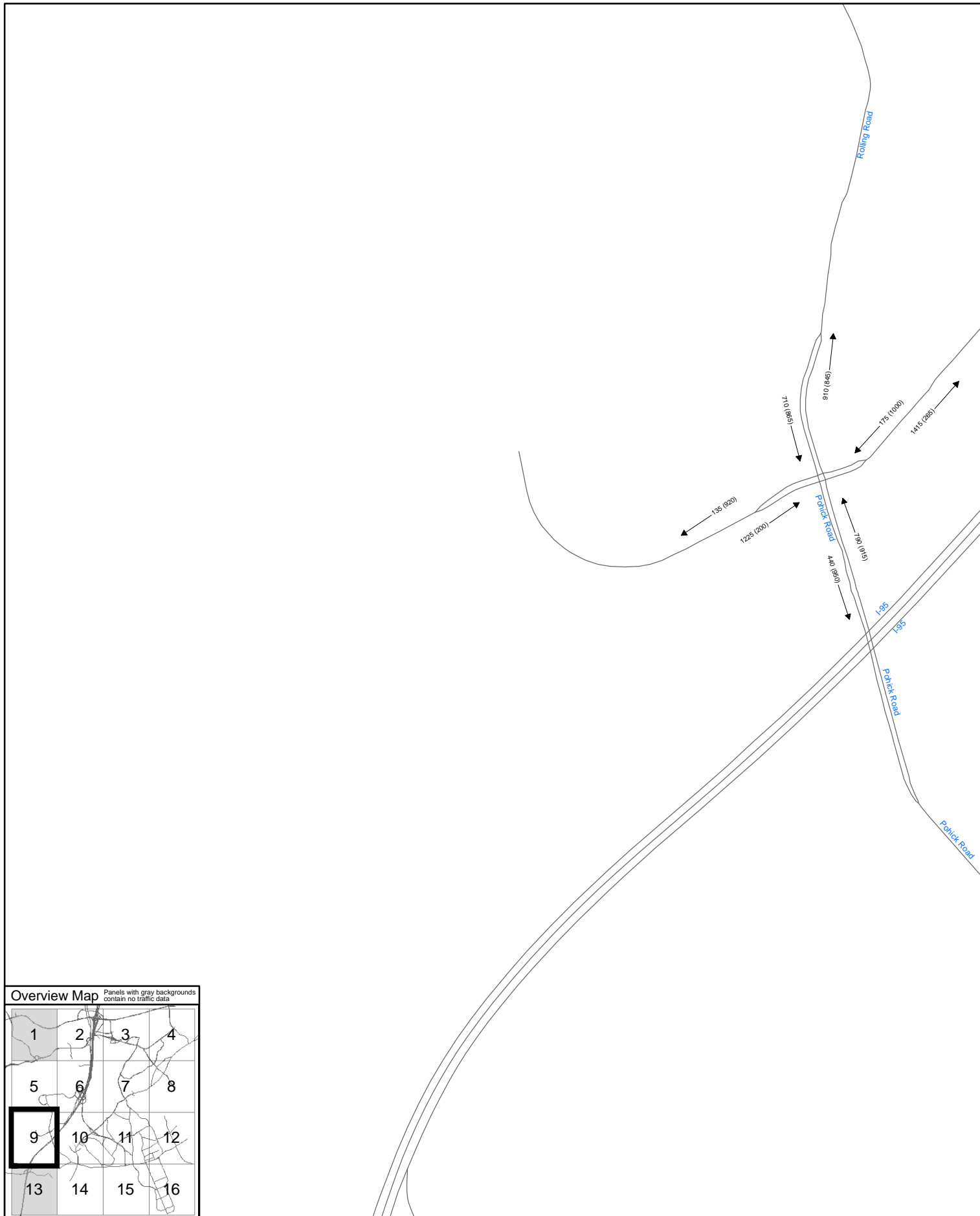
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Fairfax County Parkway Road Name Labels



Traffic Volumes: 2006 Typical Volumes - Link Volumes

Fort Belvoir / EPG
Fort Belvoir, Virginia



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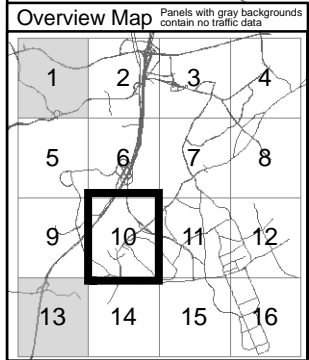
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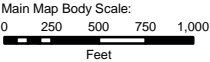
--- Proposed Fairfax County Parkway

Fairfax County Parkway Road Name Labels

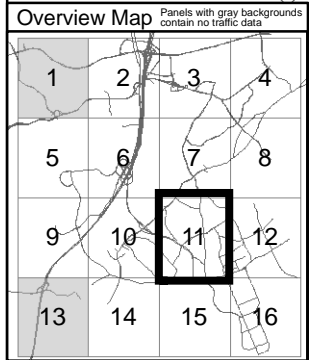
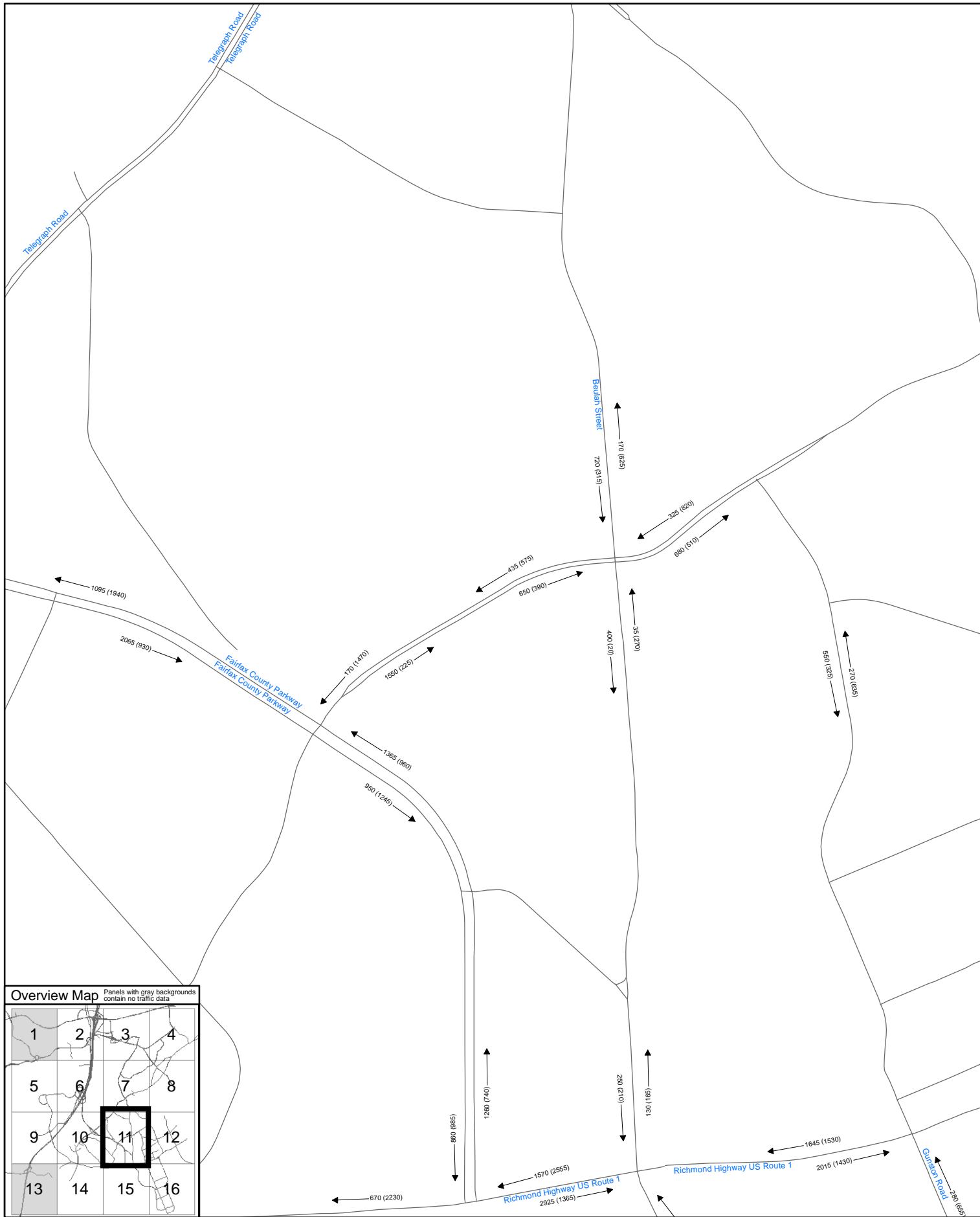


Traffic Volumes: 2006 Typical Volumes - Link Volumes

Fort Belvoir / EPG
Fort Belvoir, Virginia

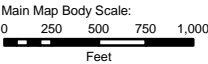


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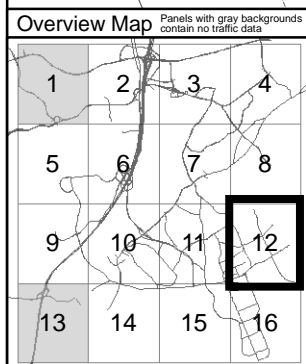


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Fort Belvoir, Virginia



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Fort Belvoir, Virginia



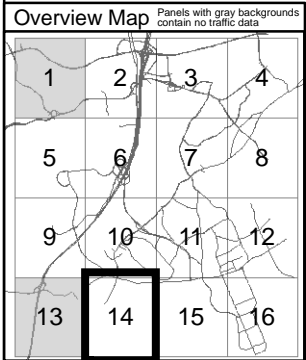
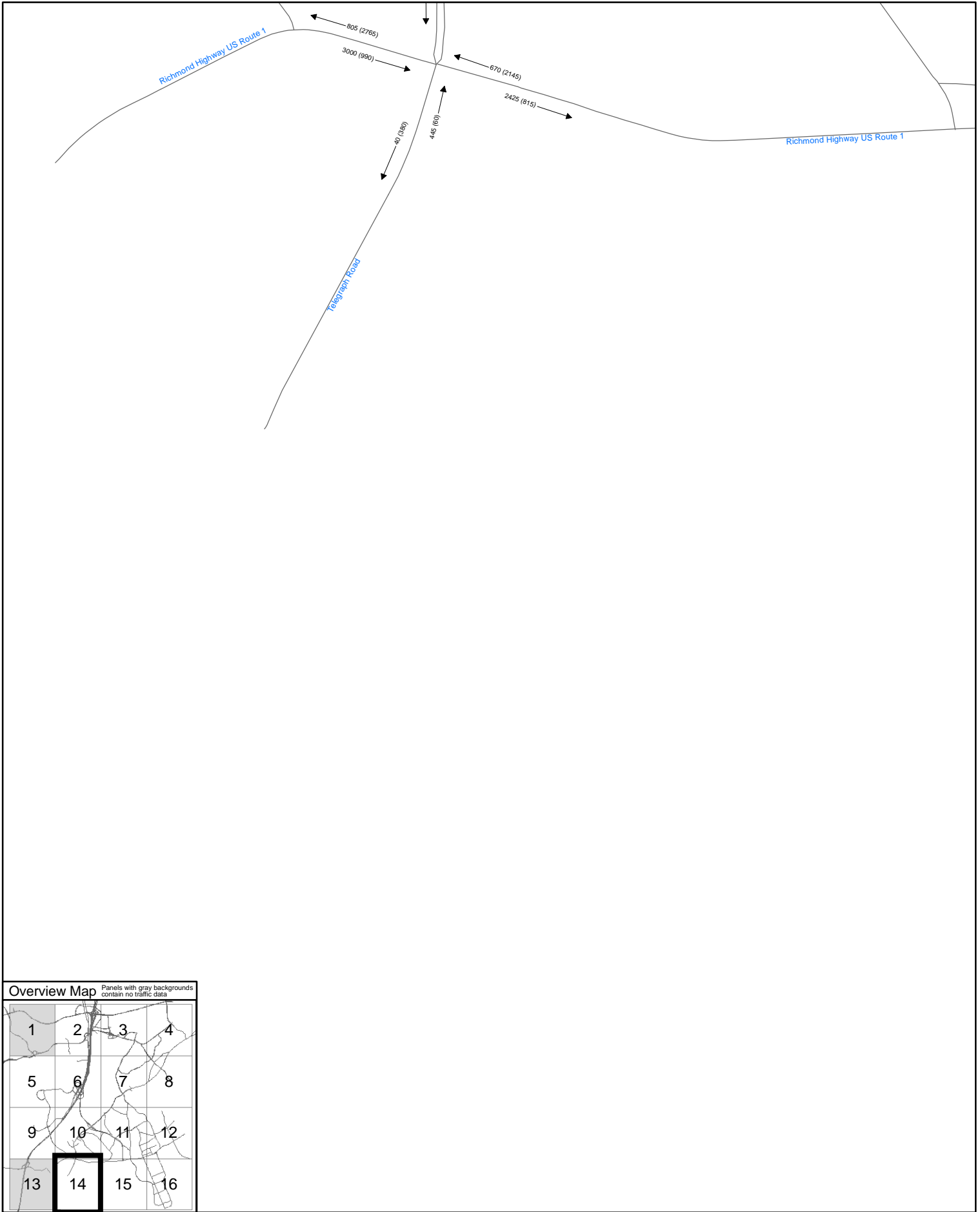
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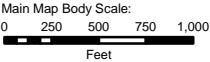
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Fairfax County Parkway

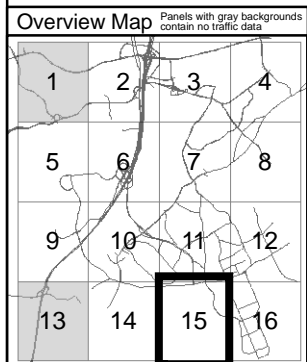


Traffic Volumes: 2006 Typical Volumes - Link Volumes

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Fort Belvoir, Virginia



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Traffic Volumes: 2006 Typical Volumes - Link Volumes

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Fort Belvoir, Virginia



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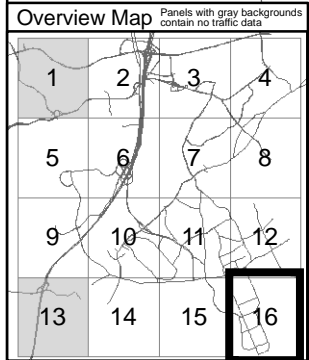
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— Existing Road Centerlines

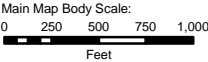
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--- Proposed Fairfax County Parkway

Fairfax County Parkway Road Name Labels



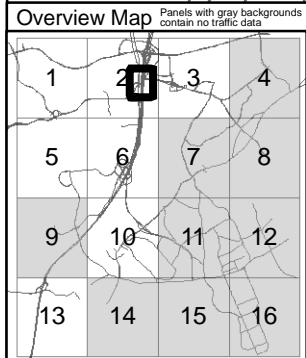
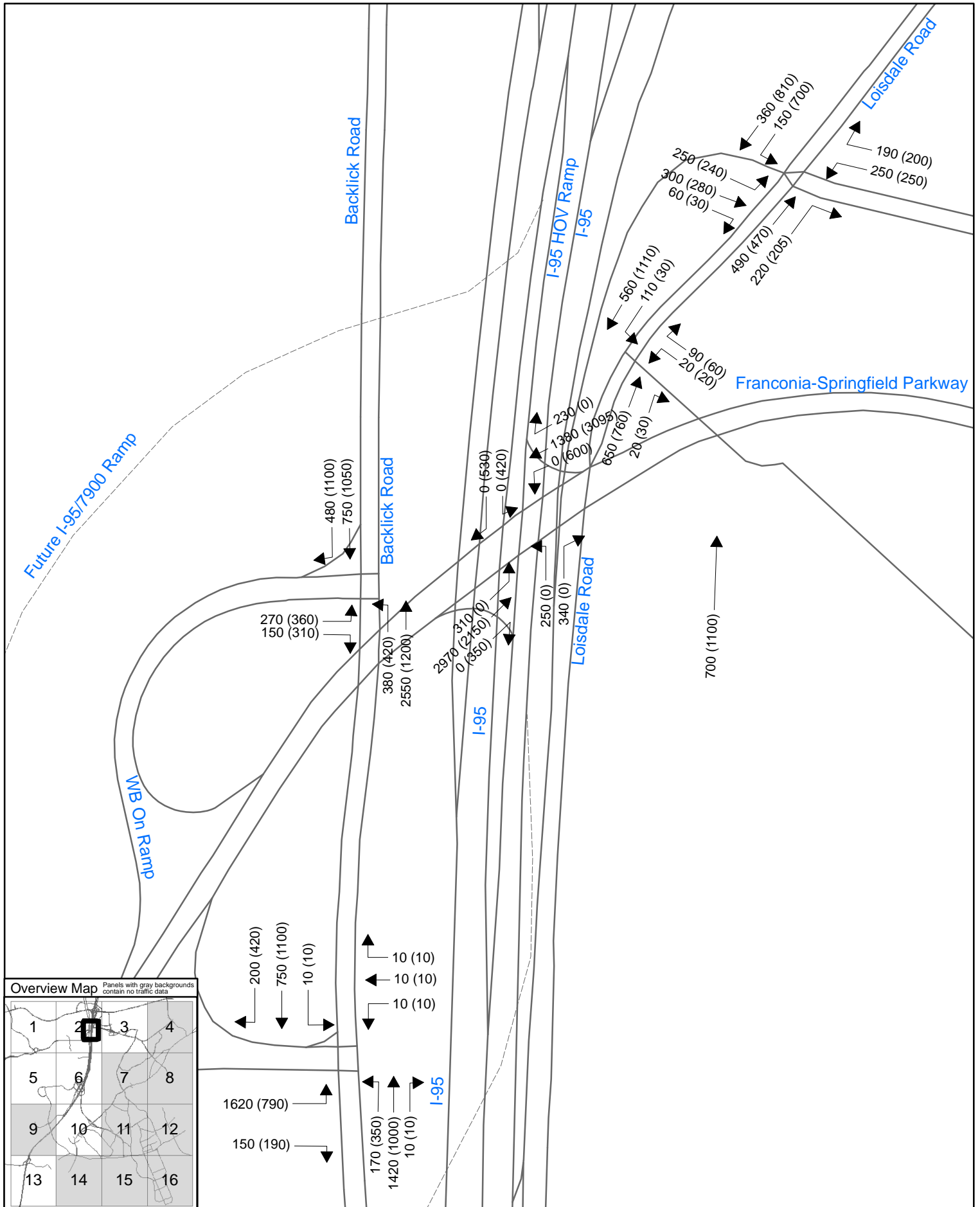
Traffic Volumes: 2006 Typical Volumes - Link Volumes



Fort Belvoir / EPG
Fort Belvoir, Virginia



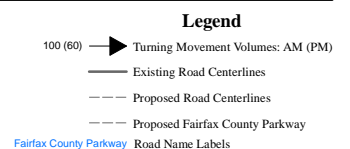
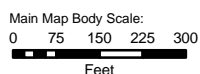
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 - Fairfax County Parkway Road Name Labels

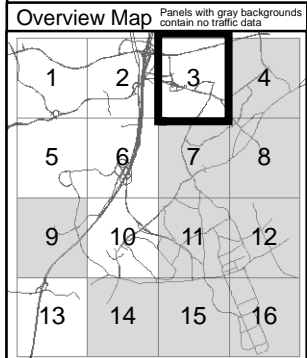


MAP 2a

Traffic Volumes: 2011 No Action for GSA NEPA

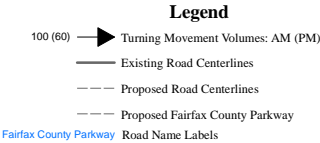
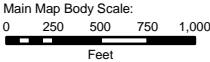
Fort Belvoir / EPG
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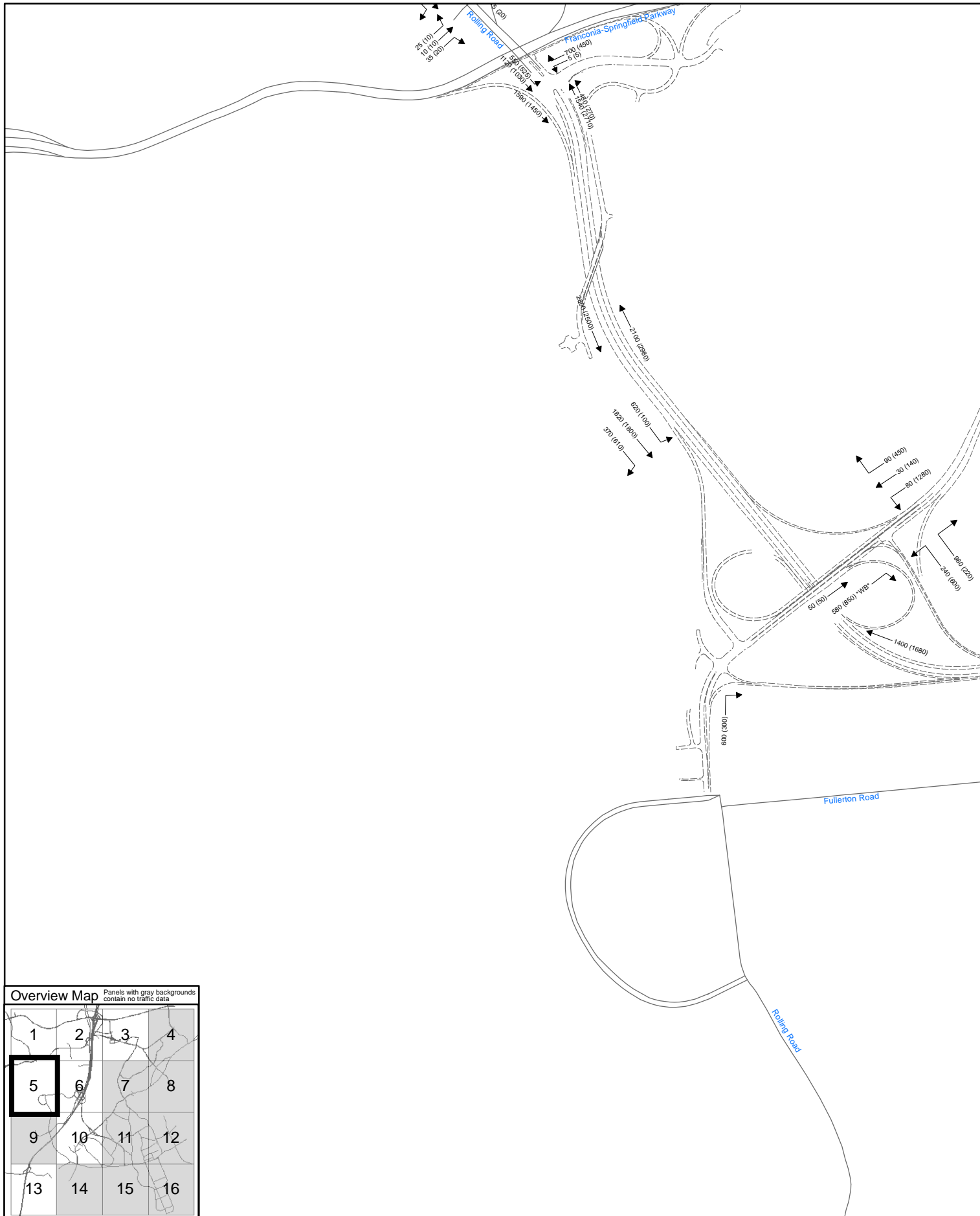




Traffic Volumes: 2011 No Action for GSA NEPA

Fort Belvoir / EPG
Fort Belvoir, Virginia





Traffic Volumes: 2011 No Action for GSA NEPA

Fort Belvoir / EPG
Fort Belvoir, Virginia

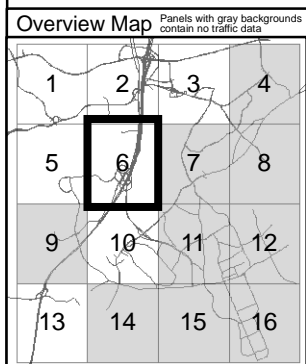
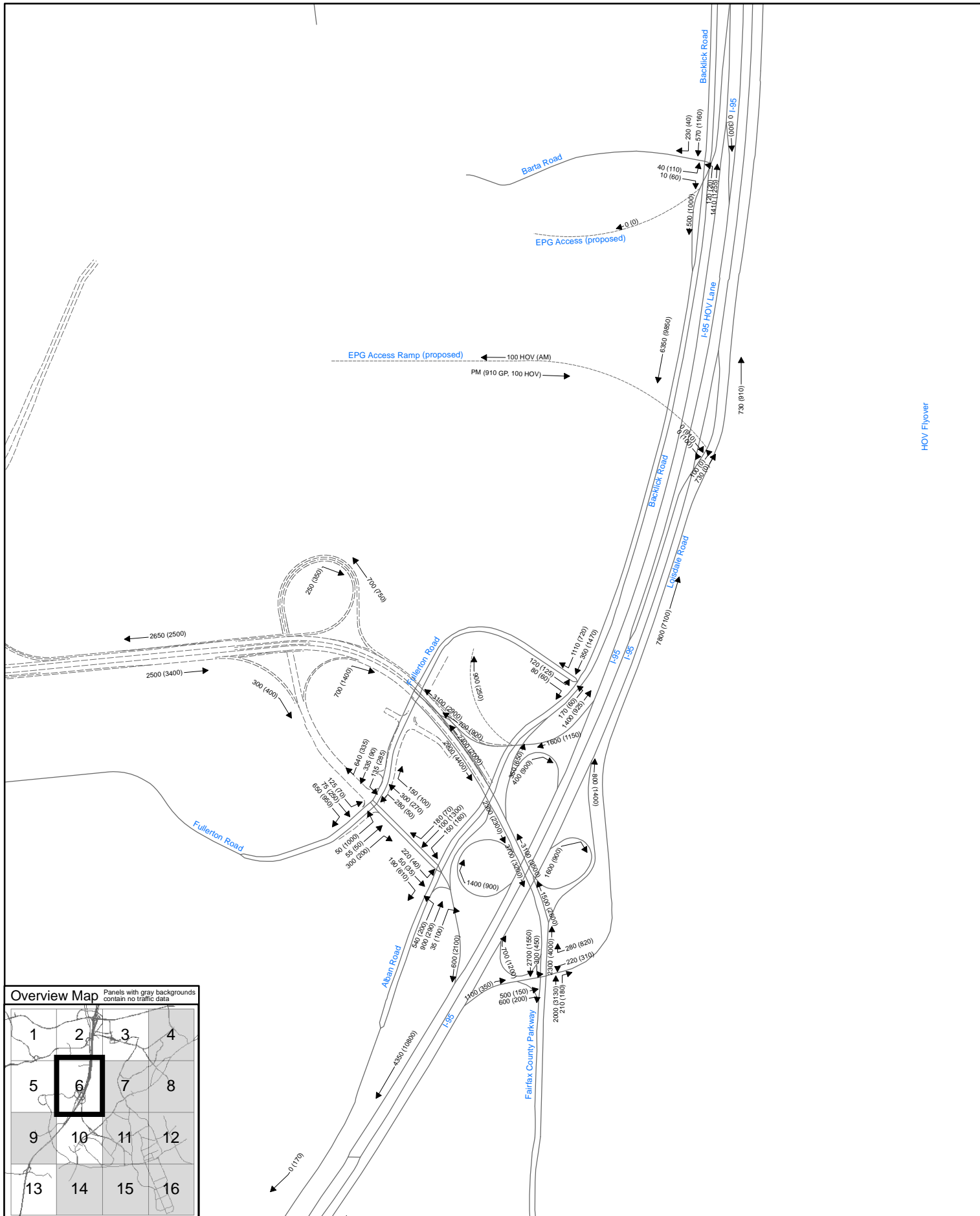


Main Map Body Scale:
0 250 500 750 1,000
Feet



Legend

- 100 (60) —▶ Turning Movement Volumes: AM (PM)
- Existing Road Centerlines
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Traffic Volumes: 2011 No Action for GSA NEPA

Fort Belvoir / EPG
Fort Belvoir, Virginia



Main Map Body Scale:
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Feet



Legend

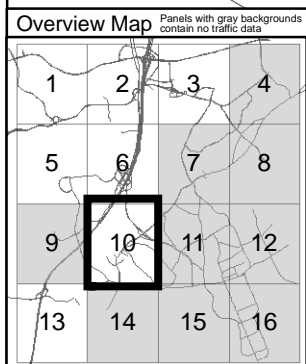
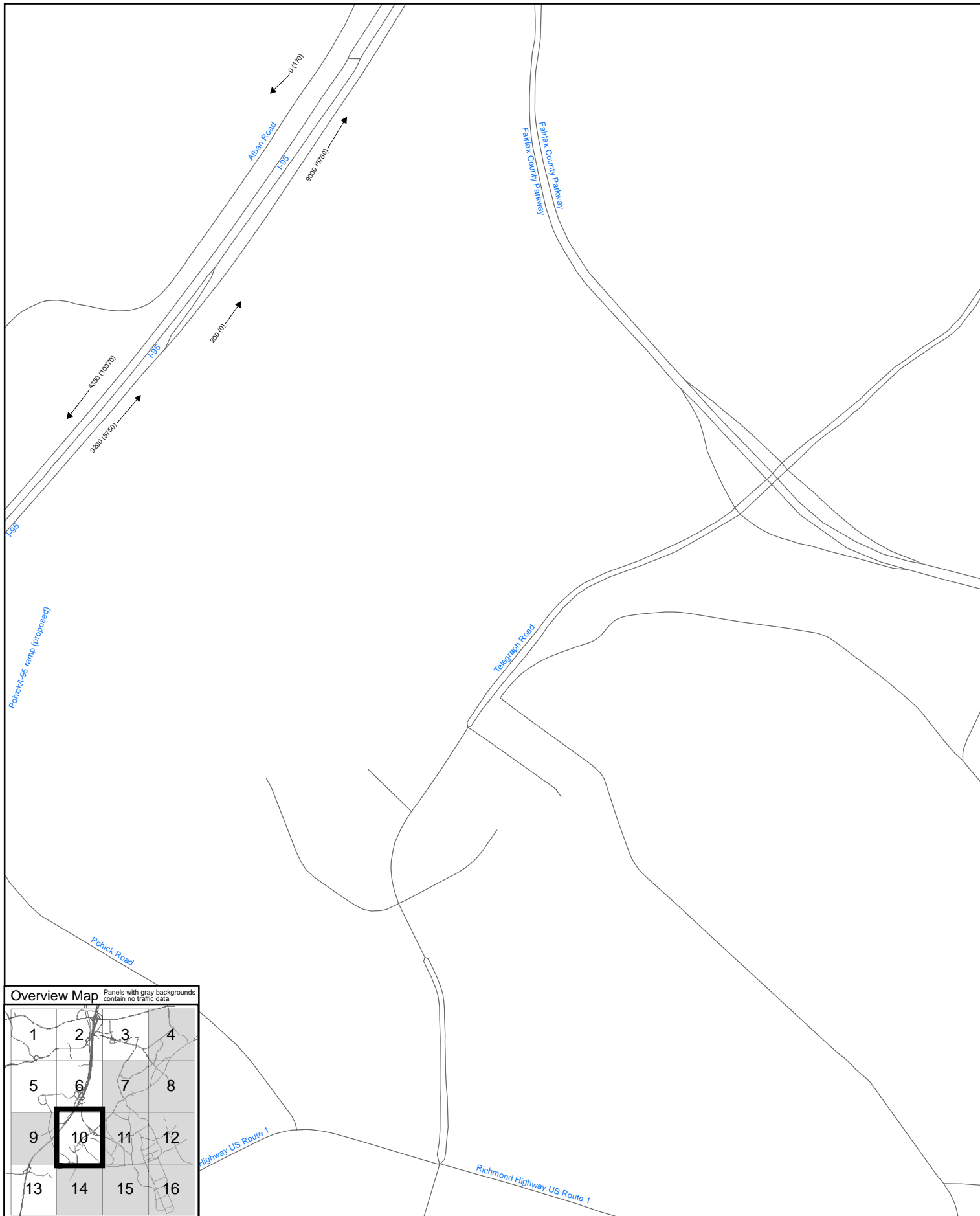
100 (60) —▶ Turning Movement Volumes: AM (PM)

— Existing Road Centerlines

- - - Proposed Road Centerlines

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Fairfax County Parkway Road Name Labels



Traffic Volumes: 2011 No Action for GSA NEPA

Fort Belvoir / EPG
Fort Belvoir, Virginia



Main Map Body Scale:
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Feet



Legend

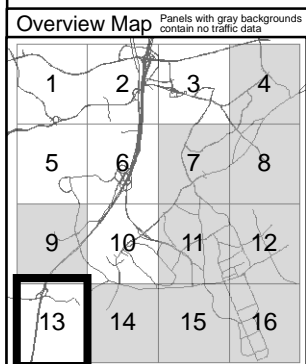
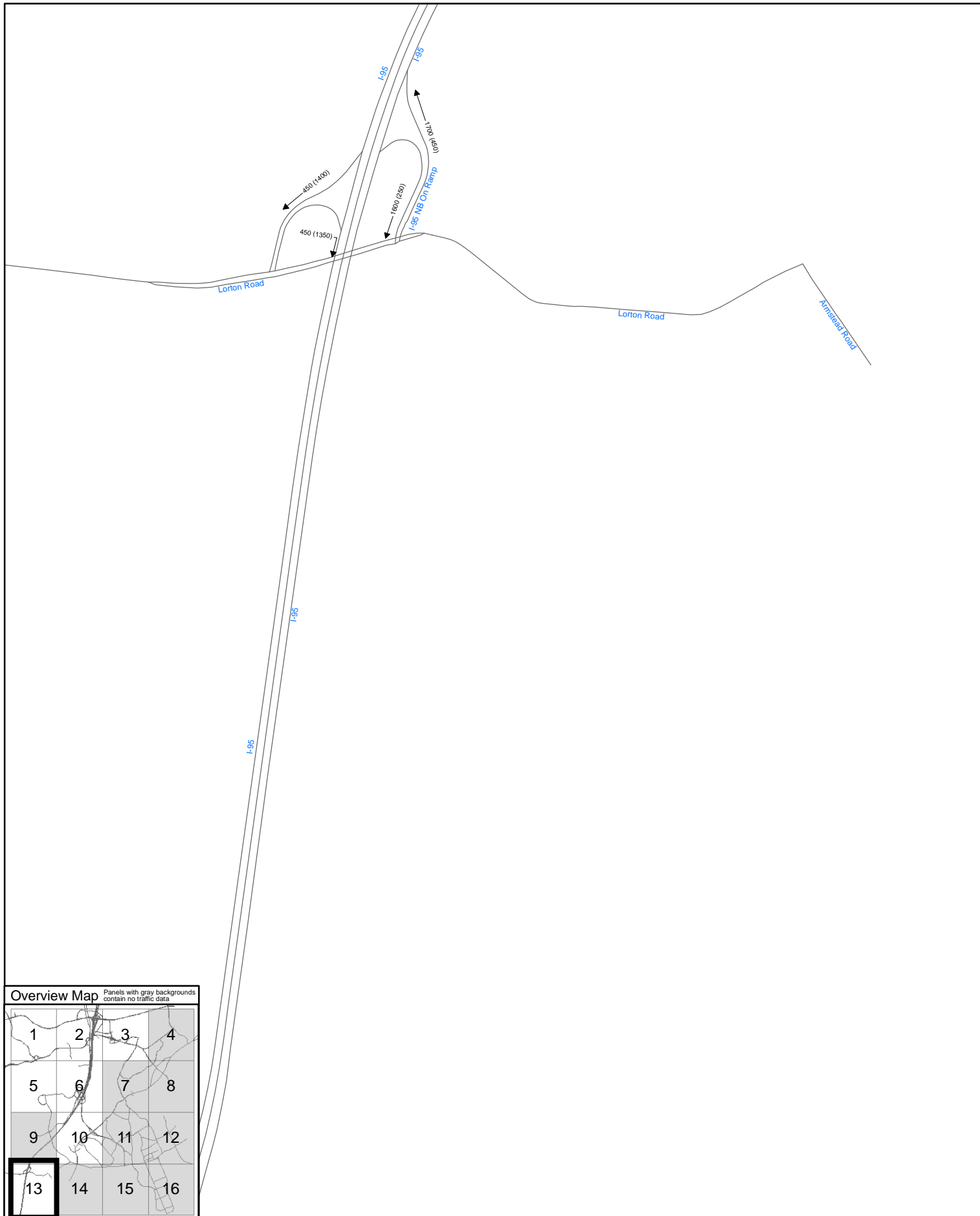
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Fairfax County Parkway Road Name Labels



Traffic Volumes: 2011 No Action for GSA NEPA

Fort Belvoir / EPG
Fort Belvoir, Virginia



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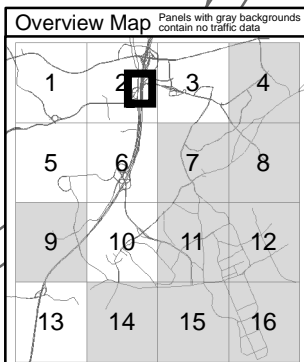
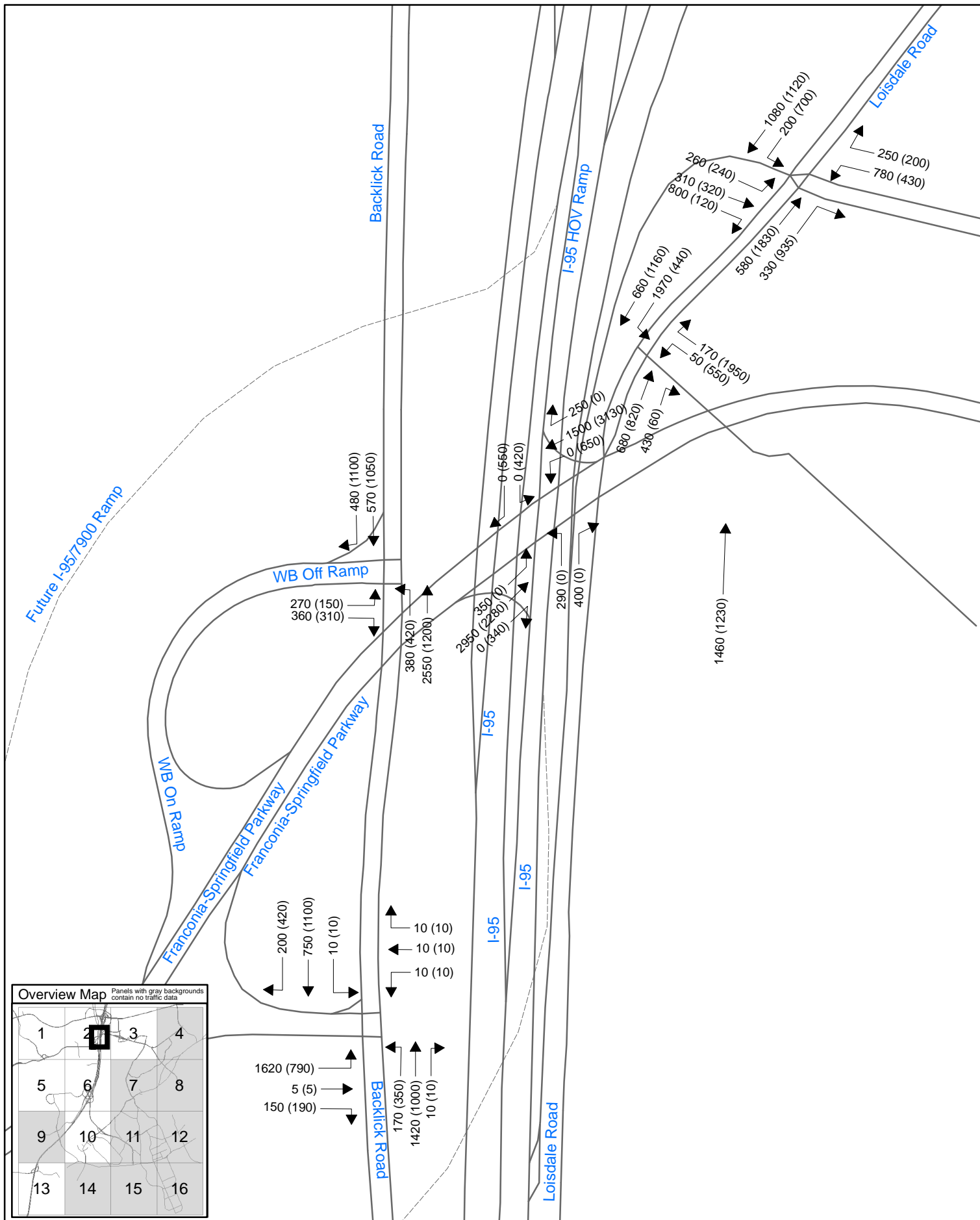
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--- Proposed Road Centerlines

--- Proposed Fairfax County Parkway

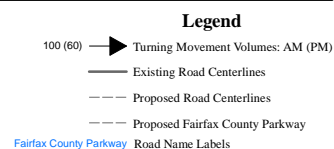
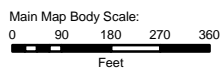
Fairfax County Parkway Road Name Labels

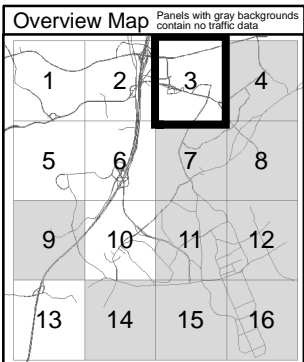
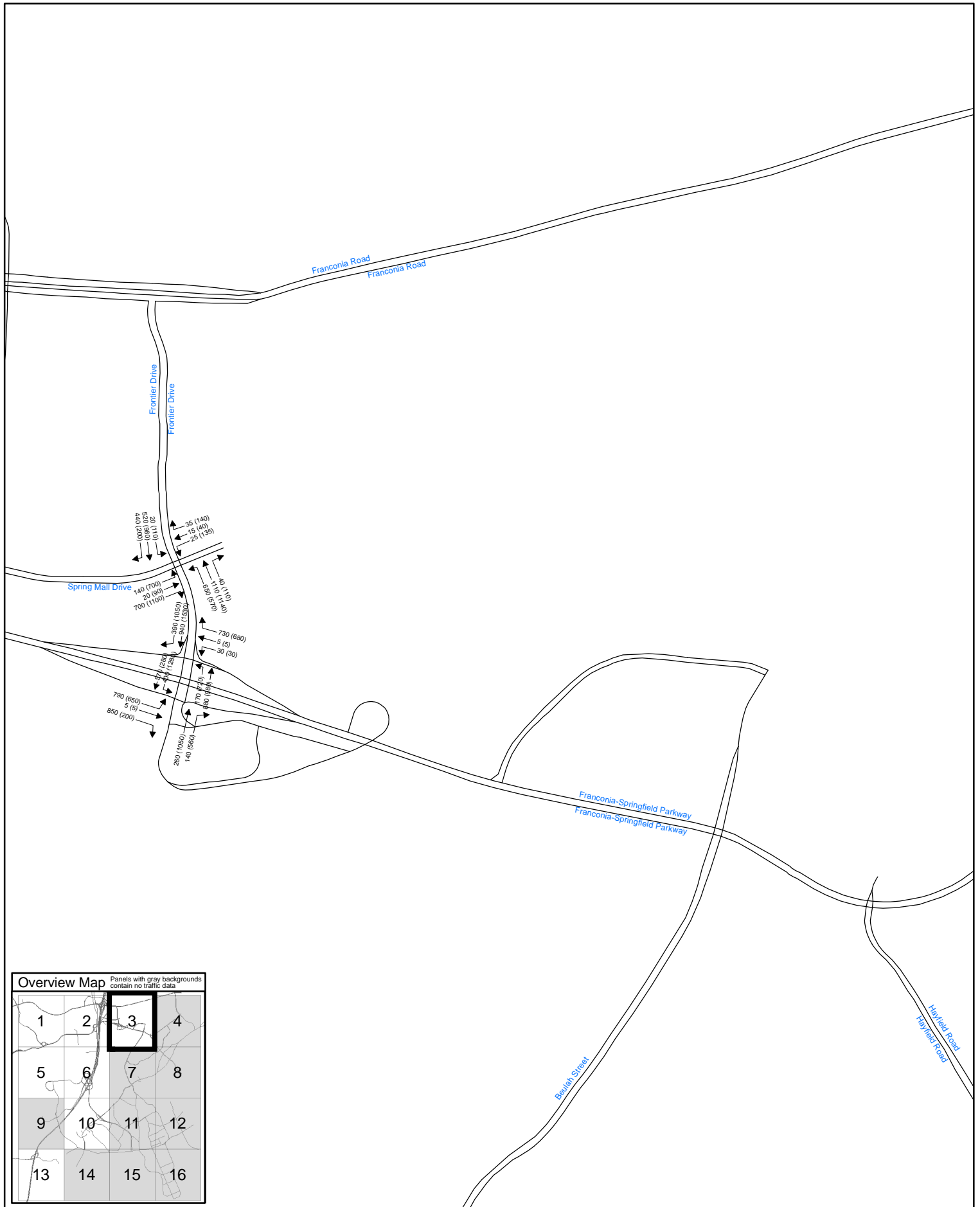


MAP 2a

Traffic Volumes: 2011 Hybrid

Fort Belvoir / EPG
Fort Belvoir, Virginia





Traffic Volumes: 2011 Hybrid

Fort Belvoir / EPG
Fort Belvoir, Virginia



Main Map Body Scale:
0 250 500 750 1,000
Feet



Legend

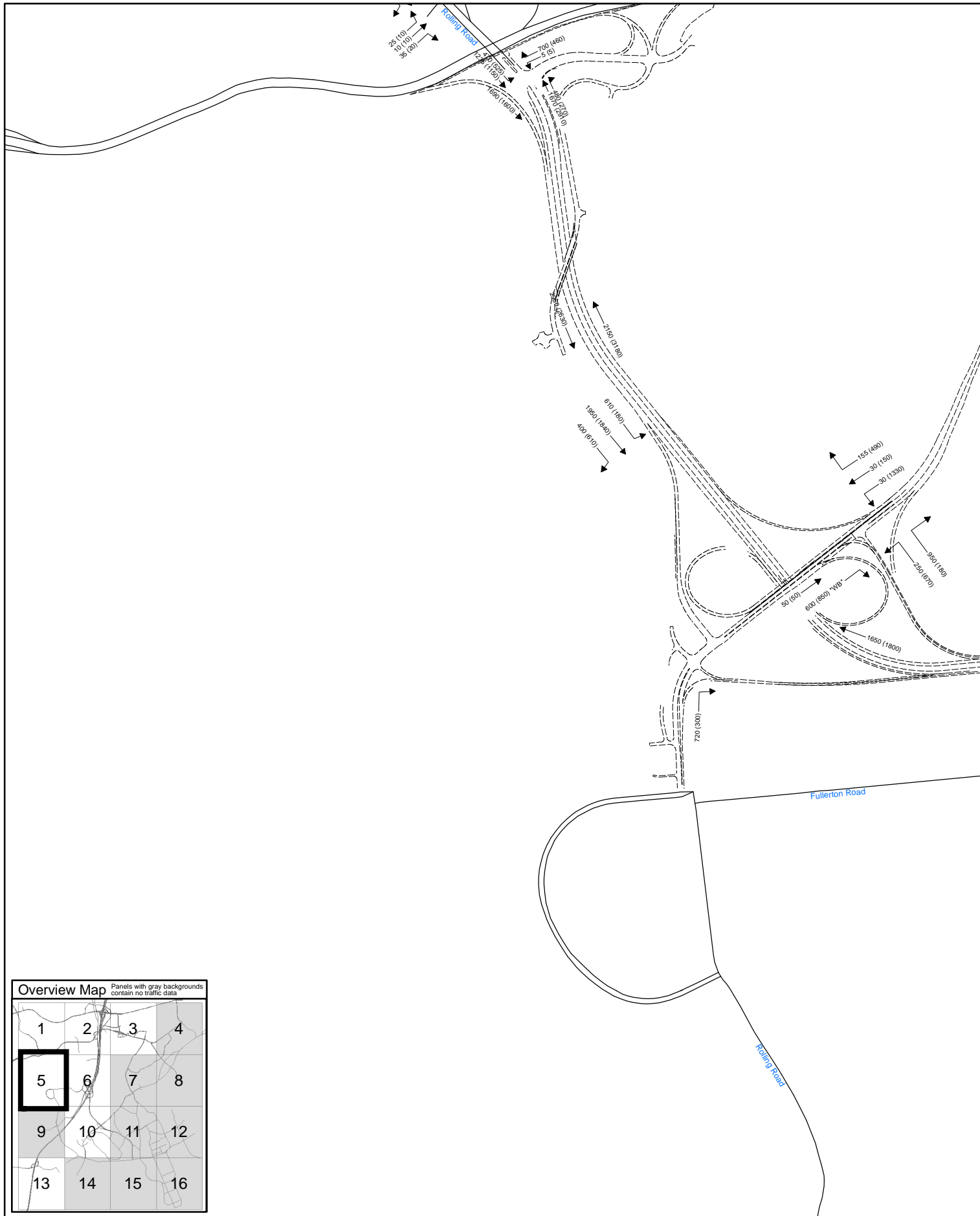
100 (60) —▶ Turning Movement Volumes: AM (PM)

— Existing Road Centerlines

--- Proposed Road Centerlines

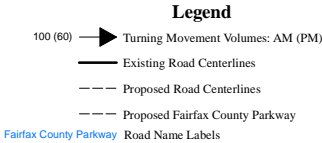
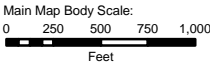
--- Proposed Fairfax County Parkway

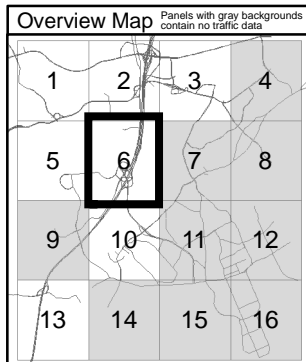
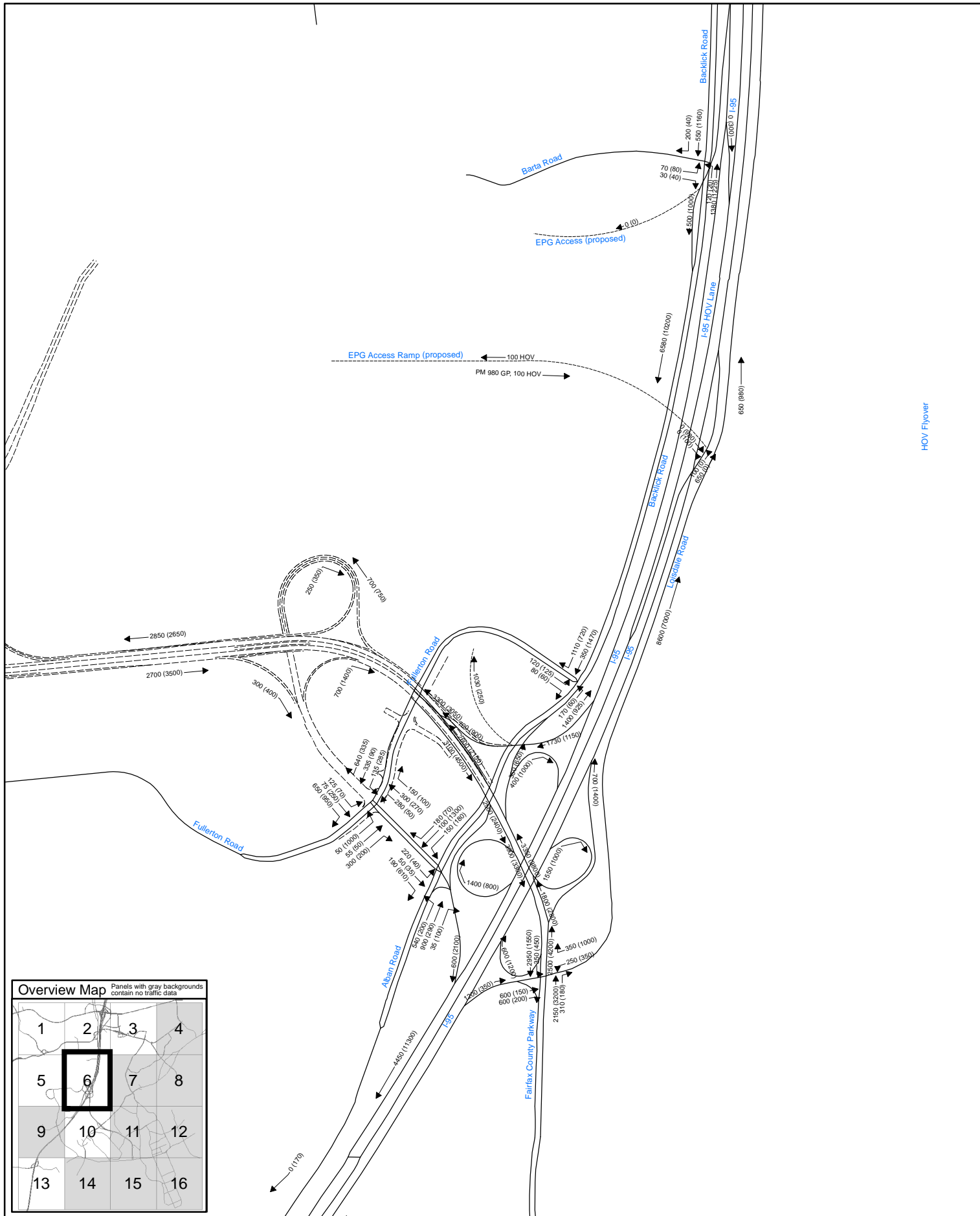
Fairfax County Parkway Road Name Labels



Traffic Volumes: 2011 Hybrid

Fort Belvoir / EPG
Fort Belvoir, Virginia





Traffic Volumes: 2011 Hybrid

Fort Belvoir / EPG
Fort Belvoir, Virginia

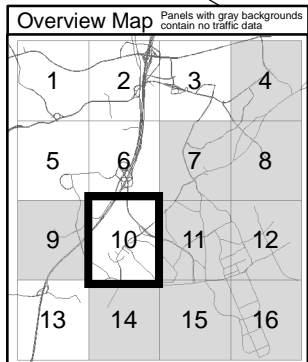
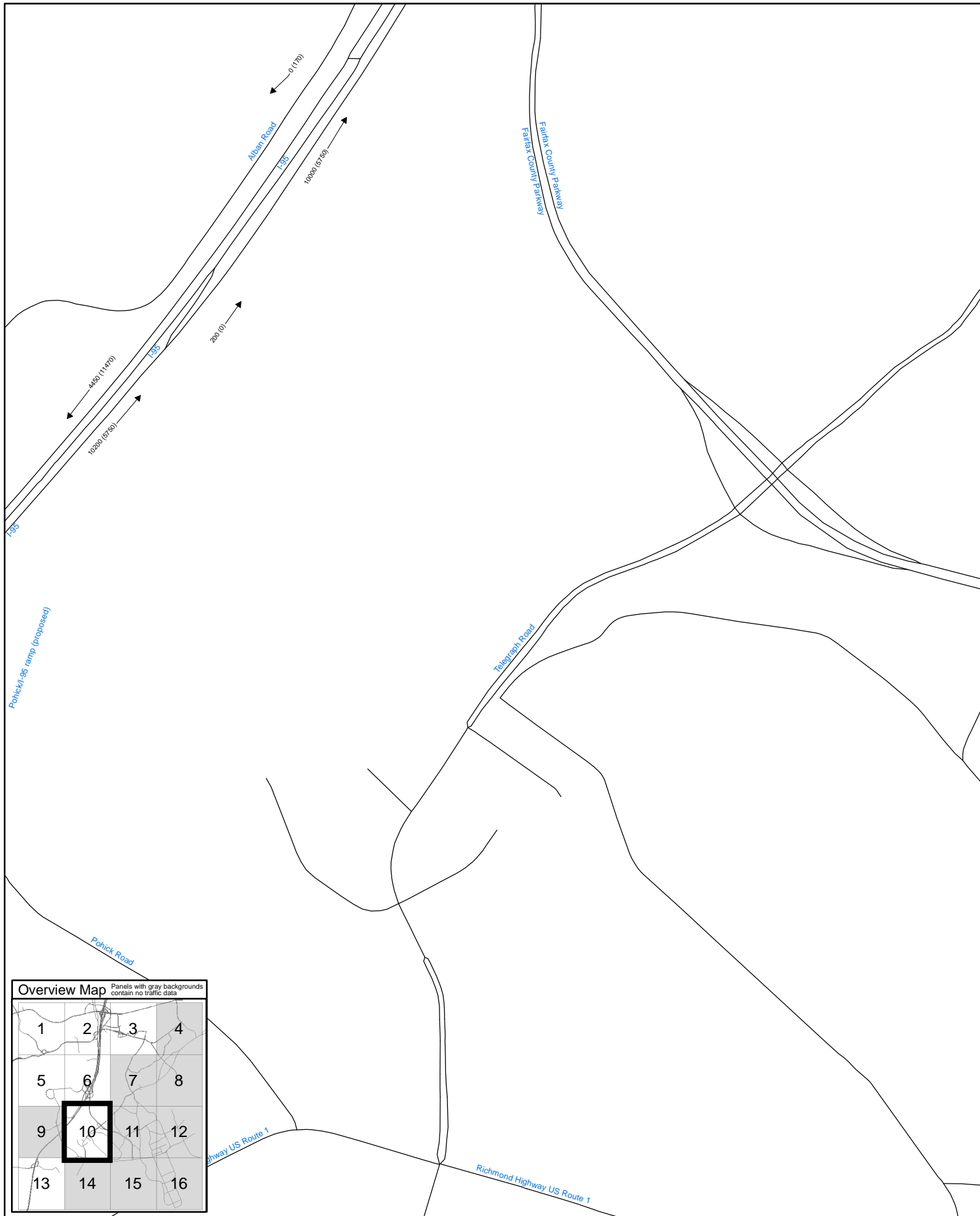


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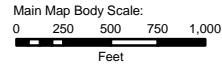


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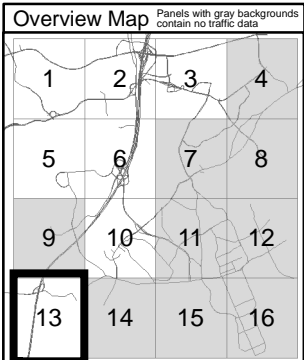
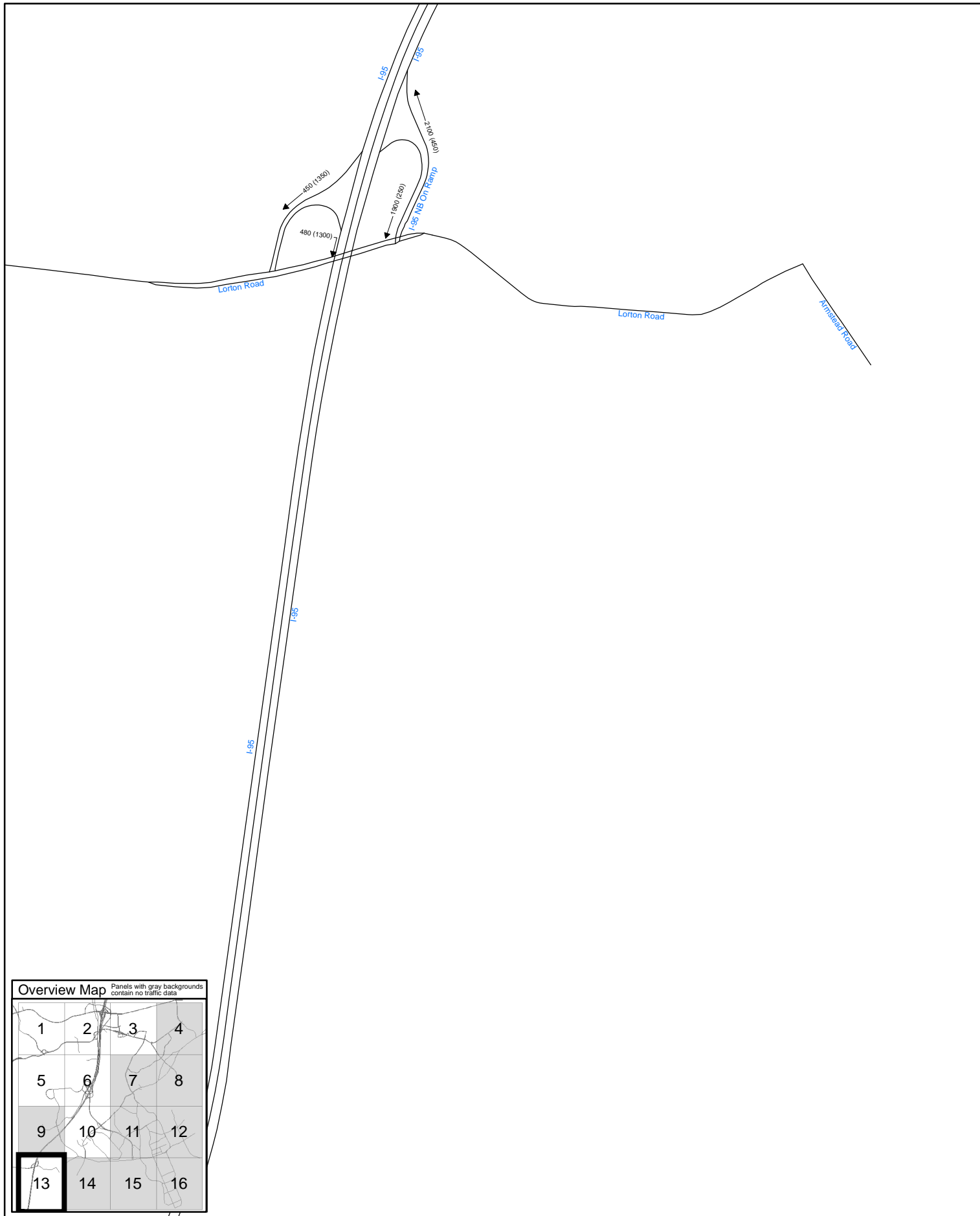
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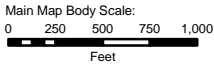
Traffic Volumes: 2011 Hybrid Fort Belvoir / EPG Fort Belvoir, Virginia



- Legend**
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Traffic Volumes: 2011 Hybrid Fort Belvoir / EPG Fort Belvoir, Virginia



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Appendix E

Air Quality Supporting Documentation

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- E.5 Fort Belvoir BRAC Construction Performance Plan
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APPENDIX E.1 EMISSIONS ESTIMATIONS AND METHODOLOGY

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E.1 EMISSIONS ESTIMATIONS AND METHODOLOGY

The Army has considered net emissions generated from all direct and indirect sources of air emission that are reasonably foreseeable. *Direct emissions* are emissions that are caused or initiated by a federal action and occur at the same time and place as the action. *Indirect emissions* are defined as reasonably foreseeable emissions that are caused by the action but might occur later in time and/or be farther removed in distance from the action itself, and that the federal agency can practicably control. For the evaluation of BRAC 133, direct emissions that were considered in the *Final General Conformity Determination for Implementation of 2005 Base Realignment and Closure (BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia* (USACE, 2007b) included emissions from construction activities, motor vehicles, and point sources that are not large enough to be subject to the Major New Source Review permitting process (USEPA and FAA, 2002). More specifically, project-related direct emissions would result from the following:

- *Demolition and construction activities*: the use of non-road equipment (e.g., bulldozers, backhoes), worker vehicles, the use of volatile organic compound (VOC) paints, paving off-gasses, and fugitive particles from surface disturbances
- *Operational activities*: Emergency generators and small heating boilers not subject to major new source review, and the use of private motor vehicles.

No direct or indirect emissions are associated with the land transfer activities associated with the federal action; all direct and indirect emissions would be associated with the BRAC 133 activities.

E.1.1 DEMOLITION AND CONSTRUCTION EMISSIONS

Demolition and construction emissions associated with the use of construction equipment (e.g., bulldozers, backhoes), worker vehicles, the use of VOC paints, paving off-gasses, and fugitive particles from surface disturbances are presented in Tables E-1, E-2, and E-3 for all the years of construction. This section also outlines all the calculations and assumptions made to derive these construction emission estimations.

E.1.1.1 Heavy Construction Equipment

Pollutant emissions resulting from activities associated with constructing the new buildings, parking facilities, and roadways were estimated. The typical demolition and construction would involve such activities as demolition of existing buildings or structures, utility installation, road construction, site clearing and grading, building construction, asphalt paving, and landscaping.

Demolition and construction would involve the use of various non-road equipment, power generators, and trucks. Pieces of equipment to be used for building construction include, but are not limited to, backhoes, loaders, excavators, air compressors, chain saws, chipping machines, dozers, cranes, pavers, graders, rollers, and heavy trucks. Information regarding the number of pieces and types of construction equipment to be used on the project, the schedule for deployment of equipment (monthly and annually), and the approximate daily operating time (including power level or usage factor) were estimated for each individual construction project based on a schedule of construction activity.

Emissions from construction activities were estimated based on the projected construction activity schedule, the number of vehicles/pieces of equipment, and vehicle/equipment utilization rates. Emission factors for heavy-duty diesel equipment were obtained from EPA's *NONROAD2005 Emissions Model* (USEPA, 2004). The equipment and vehicle operation hours

Table E-1
Estimated construction emissions (GSA site alternative)

Year	Construction emissions (tpy)			
	NO _x	VOC	PM _{2.5}	SO ₂
2007	5.0	0.3	0.9	0.8
2008	32.7	9.2	2.0	4.2
2009	57.2	16.8	3.3	7.8
2010	0.1	0.1	0.0	0.0
2007 Annual construction emissions	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	4.9	0.3	0.3	0.8
Worker trip emissions	0.1	0.1	0	0
Total	5.0	0.35	0.9	0.8
2008 Annual construction emissions	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	30.7	5.1	1.8	4.2
Worker trip emissions	1.9	1.8	0.1	0.1
Architectural coating emissions	0.0	2.3	0.0	0.0
Total	32.7	9.23	2.0	4.2
2009 Annual construction emissions	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	53.6	9	3.2	7.7
Worker trip emissions	3.6	3.3	0.1	0.1
Architectural coating emissions	0.0	4.4	0.0	0.0
Total	57.2	16.75	3.3	7.8
2010 Annual construction emissions	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	0.1	0.1	0.0	0.0
Total	0.1	0.1	0.0	0.0

Note: Inconsistencies due to rounding may exist.

Table E-2
Estimated construction emissions (Victory Center alternative)

Year	Construction emissions (tpy)				
	CO	NO _x	VOC	PM _{2.5}	SO ₂
2008	14.0	38.0	3.2	2.5	5.0
2009	22.0	29.5	4.3	2.0	4.0
2010	36.5	72.1	7.4	5.0	10.4
2011	41.1	43.3	7.5	3.7	6.4
2008 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	14.0	38.0	3.2	2.5	5.0
Total	14.0	38.0	3.2	2.5	5.0
2009 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	10.8	28.7	2.4	1.9	4.0
Worker trip emissions	11.2	0.9	0.8	0.0	0.0
Architectural coating emissions	0.0	0.0	1.1	0.0	0.0
Total	22.0	29.5	4.3	2.0	4.0
2010 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	27.6	71.4	5.9	4.9	10.4
Worker trip emissions	8.9	0.7	0.6	0.0	0.0
Architectural coating emissions	0.0	0.0	0.8	0.0	0.0
Total	36.5	72.1	7.4	5.0	10.4
2011 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	17.8	41.5	3.6	3.6	6.3
Worker trip emissions	23.3	1.8	1.7	0.1	0.1
Architectural coating emissions	0.0	0.0	2.2	0.0	0.0
Total	41.1	43.3	7.5	3.7	6.4

Note: Inconsistencies due to rounding may exist.

Table E-3
Estimated construction emissions (Mark Center alternative)

Year	Construction emissions (tpy)				
	CO	NO _x	VOC	PM _{2.5}	SO ₂
2008	11.8	31.5	2.5	2.1	4.3
2009	21.6	36.4	4.3	2.7	5.0
2010	41.3	79.1	8.3	5.4	11.4
2011	43.3	43.5	7.9	3.7	6.4
2008 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	11.8	31.5	2.5	2.1	4.3
Total	11.8	31.5	2.55	2.1	4.3
2009 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy Equipment Emissions	13.5	35.8	3.0	2.4	4.9
Worker Trip Emissions	8.1	0.6	0.6	0.0	0.0
Architectural Coating Emissions	0.0	0.0	0.8	0.0	0.0
Fugitive Dust Emissions	0.0	0.0	0.0	0.2	0.0
Total	21.6	36.4	4.3	2.7	5.0
2010 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	30.2	78.2	6.5	5.4	11.3
Worker trip emissions	11.1	0.9	0.8	0.0	0.0
Architectural coating emissions	0.0	0.0	1.0	0.0	0.0
Total	41.3	79.1	8.3	5.4	11.4
2011 Annual construction emissions	CO	NO_x	VOC	PM_{2.5}	SO₂
Heavy equipment emissions	17.8	41.5	3.6	3.6	6.3
Worker trip emissions	25.5	2.0	1.8	0.1	0.1
Architectural coating emissions	0.0	0.0	2.4	0.0	0.0
Total	43.3	43.5	7.9	3.7	6.4

Note: Inconsistencies due to rounding may exist.

were estimated based on R.S.Means' *Building Cost Construction Data*, 64th annual edition (Waier, 2006), and field experience from similar projects such as the existing Fort Belvoir BRAC construction sites.

For the GSA site alternative, strict anti-idling procedures would be implemented during the years of construction. It was estimated that this would reduce non-road equipment emissions by 2 percent. In addition, policies and procedures to limit the use of off-road trucks would be implemented. It was estimated that off-road truck uses could be reduced by 50 percent and replaced by the use of twice as many on-road trucks (SCAQMD, 1993). The Mark Center and Victory Center sites are not subject to these requirements – therefore, they were not included in the calculations.

Emission factors in grams of pollutant per hour were multiplied by the estimated running time to calculate total grams of pollutant from each piece of equipment. Finally, these total grams of pollutant were converted to tons of pollutant. The following formula was used to calculate hourly emissions from non-road engine sources, including cranes, backhoes, and the like:

$$M_i = (N \times EF_i) \times AI$$

where: M_i = mass of emissions of i^{th} pollutant during inventory period
 N = source population (units)
 EF_i = average emissions of i^{th} pollutant per unit of use (e.g., grams per hour)
 AI = anti-idling factor (0.98).

The total annual emissions levels are summarized in Tables E-4, E-5, and E-6.

Table E-4
Estimated annual emissions from construction and demolition equipment
(GSA site alternative)

Year	NO _x emissions (tpy)	VOC emissions (tpy)	PM _{2.5} emissions (tpy)	SO ₂ emissions (tpy)
2007	4.9	0.3	0.3	0.8
2008	30.7	5.1	1.8	4.2
2009	53.6	9.0	3.2	7.7
2010	0.1	0.1	0.0	0.0

Sources: USEPA, 2004; SCAQMD, 1993.

Table E-5
Estimated annual emissions from construction and demolition equipment
(Victory Center alternative)

Year	CO emissions (tpy)	NO _x emissions (tpy)	VOC emissions (tpy)	PM _{2.5} emissions (tpy)	SO ₂ emissions (tpy)
2008	14.0	38.0	3.2	2.5	5.0
2009	10.8	28.7	2.4	1.9	4.0
2010	27.6	71.4	5.9	4.9	10.4
2011	17.8	41.5	3.6	3.6	6.3

Sources: USEPA, 2004; SCAQMD, 1993.

Table E-6
Estimated annual emissions from construction and demolition equipment
(Mark Center alternative)

Year	CO emissions (tpy)	NO _x emissions (tpy)	VOC emissions (tpy)	PM _{2.5} emissions (tpy)	SO ₂ emissions (tpy)
2008	11.8	31.5	2.6	2.1	4.3
2009	13.5	35.8	3.0	2.4	4.9
2010	30.2	78.2	6.5	5.4	11.3
2011	17.8	41.5	3.6	3.6	6.3

Sources: USEPA, 2004; SCAQMD, 1993.

E.1.1.2 Construction Worker Vehicle Operations

Emissions due to construction worker vehicle use were included in the analysis. Emission factors for motor vehicles were conservatively calculated using the EPA *MOBILE6.2*. Metropolitan Washington Council of Governments (MWCOG) provided *MOBILE6.2* input files applicable to the project during the years of interest. These emission factors were then multiplied by the vehicle operational hours to determine motor vehicle emissions. The analysis assumed conservatively that the worker's vehicle would drive 30 miles per day on post at an average speed of 35 miles per hour. The total annual emissions levels are summarized in Tables E-7, E-8, and E-9.

Table E-7
Estimated annual emissions from construction worker vehicles
(GSA site alternative)

Year	NO _x emissions (tpy)	VOC emissions (tpy)	PM _{2.5} emissions (tpy)	SO ₂ emissions (tpy)
2007	0.1	0.1	0.0	0.0
2008	1.9	1.8	0.1	0.1
2009	3.6	3.4	0.1	0.1
2010	0.0	0.0	0.0	0.0

Sources: USEPA, 2002; SCAQMD, 1993.

Table E-8
Estimated annual emissions from construction worker vehicles
(Victory Center alternative)

Year	CO emissions (tpy)	NO _x emissions (tpy)	VOC emissions (tpy)	PM _{2.5} emissions (tpy)	SO ₂ emissions (tpy)
2009	11.2	0.9	0.8	0.0	0.0
2010	8.9	0.7	0.6	0.0	0.0
2011	23.3	1.8	1.7	0.1	0.1

Sources: USEPA, 2002; SCAQMD, 1993.

Table E-9
Estimated annual emissions from construction worker vehicles
(Mark Center alternative)

Year	CO emissions (tpy)	NO _x emissions (tpy)	VOC emissions (tpy)	PM _{2.5} emissions (tpy)	SO ₂ emissions (tpy)
2009	8.1	0.6	0.6	0.0	0.0
2010	11.1	0.9	0.8	0.0	0.0
2011	25.5	2.0	1.8	0.1	0.1

Sources: USEPA, 2002; SCAQMD, 1993.

E.1.1.3 Emissions from Architectural Coatings

Emission factors relating emissions to total square footage to be built were used to estimate VOC emissions from architectural coating activities – primarily painting activities. For office space, the area to be painted was assumed to be approximately twice the heated area of the facility, and the dry film thickness was assumed to be three millimeters (mm). VOC content in was taken from 9 VAC 5-40-7120 – Architectural and Industrial Maintenance Coatings. The following formula was used to calculate emissions from the painting of the facilities:

$$E = [(F \times G) / 1000] \times H$$

where: E = emissions of VOCs from architectural coatings
 F = pounds of VOC emissions per gallon
 G = total area to be coated (heated area x 2)
 H = paint coverage.

A sample calculation for architectural coating VOC emissions during construction of an example facility is provided below:

$$\text{Heated area} = 100,000 \text{ ft}^2$$

$$E = [(0.83 \text{ [lb/gallon]} / 400 \text{ [ft}^2\text{/gallon]} \times [(100,000 \text{ [ft}^2\text{]} \times 2)] / 2,000 \text{ [lb/ton]}]$$

$$= 0.208 \text{ tons}$$

The total annual emissions levels are summarized in Table E-10. In addition, estimated emissions from the potential demolition and construction are presented in Attachment 1.

Table E-10
Annual VOC emissions from architectural coatings

Annual VOC Emissions (tpy)			
Year	GSA site alternative	Victory Center alternative	Mark Center alternative
2008	2.3	0.0	0.8
2009	4.4	0.0	1.0
2010	0.0	1.1	2.4
2011	0.0	0.8	2.2

Source: SCAQMD, 1993; 9 VAC 5-40-7120.

E.1.1.4 Asphalt Curing Emissions

Asphalt paving would generate emissions from (1) asphalt curing, (2) operation of onsite paving equipment, and (3) operation of motor vehicles, including paving material delivery trucks and worker commuting vehicles. Because the emissions resulting from the operation of onsite paving equipment, trucks, and vehicles were included in the previous section, only asphalt curing-related emissions are discussed in this section. Asphalt curing-related VOC emissions were calculated based on the amount of paving anticipated for the onsite parking lot and new roadways. The following assumption was used in VOC emission calculations for asphalt curing (SCAQMD, 1993):

$$E = \text{area paved} \times 2.62 \text{ lb VOC/acre}$$

A sample calculation is provided below:

$$\text{Paved area} = 100 \text{ acres}$$

$$E = 100 \text{ acres} \times 2.62 \text{ lb VOC/acre} / 2000 \text{ lb/ton}$$

$$= 0.131 \text{ ton}$$

The total annual emissions levels are summarized in Table E-11. Due to the minimal paving anticipated for the Victory Center and Mark Center sites, negligible off gas emissions are anticipated.

Table E-11
Annual VOC emissions from asphalt curing

Year	Annual VOC emissions (tpy)
2009	0.1
2010	0.1

Source: SCAQMD, 1993.

E.1.1.5 Surface Disturbance

The quantity of dust emissions ($PM_{2.5}$) from construction operations is proportional to the area of land being worked and to the level of construction activity. The following assumptions were used in $PM_{2.5}$ emission calculations for fugitive dust emissions (AP-42 Section 13.2.3 [USEPA, 1995]; USEPA, 2005).

$$E = \text{open area} \times EF \times PM_{10}/TSP \times PM_{2.5}/PM_{10} \times \text{capture fraction}$$

where: open area = number of acres open
TSP = total suspended particulates
EF = 80 lb TSP/acre
 PM_{10}/TSP = 0.45 lb PM_{10} /lb TSP
 $PM_{2.5}/PM_{10}$ = 0.15 lb $PM_{2.5}$ /lb PM_{10}
capture fraction = 0.5

A sample calculation is provided below:

Disturbed area = 100 acres

$$E = 100 \text{ acres} \times 80 \text{ lb TSP/acre} \times 0.45 \text{ lb } PM_{10}/\text{lb TSP} \times 0.15 \text{ lb } PM_{2.5}/\text{lb } PM_{10} \times 0.5 / 2000 \text{ lb/ton}$$

$$= 0.135 \text{ tons}$$

The total annual emissions levels are summarized in Table E-12. Due to minimal amount of clearing and grading anticipated for the Victory Center site, negligible fugitive particle emissions are anticipated.

Table E-12
Annual $PM_{2.5}$ emissions from surface disturbance

Year	Annual $PM_{2.5}$ emissions (tpy)
2007	0.6
2008	0.1
2009	0.0

Sources: AP-42 Section 13.2.3 (USEPA, 1995); USEPA, 2005.

E.1.2 OPERATIONAL EMISSIONS

Operational emissions occur as a result of the operation of new facilities. The remaining direct and indirect emissions due to heating boilers, commuter vehicles, and emergency generators constitute a small net decrease in CO emissions when compared to the no action (no build) scenario. The total annual operational emissions levels are summarized in Table E-13. Notably,

Table E-13
Estimated net operating emissions

	CO emissions (tpy)	NO_x emissions (tpy)	VOC emissions (tpy)	PM emissions (tpy)	SO_x emissions (tpy)
Emergency generators	0.6	10.7	0.1	0.1	0.3
Boilers	30.3	16.1	3.8	3.8	2.8
Employee commuting	-42.5	-3.2	-0.1	-0.1	-0.1
Total	-11.6	23.7	3.7	3.7	3.0

the operating CO emissions are less than the no-build alternative; this is primarily resulting from the decrease in commuting distance.

E.1.2.1 Heating Boiler Emissions

Each building is assumed to be adequately heated, with heating values based on the U.S. Department of Energy's *Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, Commercial Buildings Energy Consumption Survey* (DOE, 1999). It is expected that building boiler emissions from each building would occur immediately after the completion of the project. The total annual emissions levels are summarized in Table E-13. Emissions due to these sources are expected to be the same for the GSA site, Victory Center, and Mark Center alternatives.

E.1.2.2 Employee Commuting Vehicular Emissions

Emission factors for motor vehicles were conservatively calculated for the year 2010 for commuter vehicles (modeled as light-duty gasoline vehicles and light-duty gasoline trucks such as sport utility vehicles [SUVs]) using the EPA *MOBILE6.2* mobile source emission factor model. MWCOG provided the most current input parameters containing the current planning assumptions for the region. A sample calculation for the annual emission rate for NO_x from new employee vehicles from a sample project is presented below:

$$\begin{aligned}
 \text{Additional employees} &= 150 \\
 \text{Number of trips per day} &= 2 \\
 \text{Number of days per year} &= 250 \\
 \text{Average vehicle commute distance} &= 35 \text{ miles} \\
 \text{MOBILE6.2 emission factor} &= 0.3 \text{ grams/mile}
 \end{aligned}$$

$$\begin{aligned}
 \text{Annual emission level} &= 150 \times 2 \text{ trips/day} \times 250 \text{ days/yr} \times 35 \text{ miles/trip} \\
 &\quad \times 0.3 \text{ grams/mile} \times 0.0000011 \text{ tons/gram} \\
 &= 0.87 \text{ tpy}
 \end{aligned}$$

The estimated net annual vehicular emissions are presented Table E-13. Emissions due to these sources are expected to be the approximately the same for the GSA site, Victory Center, and Mark Center alternatives.

ATTACHMENT 1 EMISSIONS CALCULATIONS

Table E-A-1
Project areas and durations (GSA site alternative)

Project name	Year	Duration [days]	Clearing area [acres]	Building area [ft²]	Landscaping [acres]	Paving [acres]
Secure Admin Facility (WHS), demolition, clearing and grading	2007	180	42.0	0	0.0	0.0
Infrastructure (2008), building construction	2008	135	0.0	12,500	0.0	0.0
Infrastructure, clearing and grading	2008	135	9.1	0	0.0	0.0
Secure Admin Facility (WHS) (2008), building construction	2008	365	0.0	1,109,500	0.0	0.0
Access Road/Control Point, building construction	2009	60	0.0	280	0.0	0.0
Access Road/Control Point, clearing and grading	2009	30	1.0	0	0.0	0.0
Access Road/Control Point, paving	2009	60	0.0	0	0.0	1.0
Secure Admin Facility (WHS) (2009 Parking Garage), building construction	2009	365	0.0	1,000,000	0.0	0.0
Secure Admin Facility (WHS) (2009), building construction	2009	365	0.0	1,109,500	0.0	0.0
Secure Admin Facility (WHS), landscaping	2010	45	0.0	0	18.5	0.0
Secure Admin Facility (WHS), paving	2010	45	0.0	0	0.0	5.0

Table E-A-2
Annual equipment use (GSA site alternative)

Equipment type	2007	2008	2009	2010	Total hours
Trimmers/Edgers/Brush Cutter	0.0	0.0	0.0	209.9	209.9
Lawn mowers	0.0	0.0	0.0	314.9	314.9
Lawn & Garden Tractors	0.0	0.0	0.0	367.4	367.4
Generator Sets	0.0	17,937.4	33,963.7	0.0	51,901.1
Air Compressors	0.0	10,249.9	19,407.8	0.0	29,657.8
Pavers	0.0	0.0	26.6	99.5	126.0
Plate Compactors	0.0	20,499.9	38,830.8	56.8	59,387.5
Rollers	0.0	0.0	53.1	198.9	252.1
Scrapers	3,337.1	539.3	13.5	0.0	3889.8
Cement & Mortar Mixers	0.0	35,874.8	67,927.4	0.0	103,802.2
Cranes	0.0	35,874.8	67,927.4	0.0	103,802.2
Graders	3,337.1	539.3	13.5	0.0	3,889.8
Off-highway Trucks	3,337.1	36,414.1	67,967.4	466.9	108,185.4
Tractors/Loaders/Backhoes	3,337.1	36,414.1	67,940.8	0.0	107,692.0
Crawler Tractor/Dozers	3,337.1	539.3	13.5	0.0	3,889.8

Table E-A-3
Heavy equipment emissions (GSA site alternative)

Project	CO [tons]	NO_x [tons]	PM₁₀ [tons]	PM_{2.5} [tons]	SO₂ [tons]	VOC [tons]
Secure Admin Facility (WHS), demolition, clearing and grading	2.15	4.94	0.30	0.29	0.81	0.29
Infrastructure (2008), building construction	0.52	0.12	0.01	0.01	0.02	0.02
Infrastructure, clearing and grading	0.35	0.80	0.05	0.05	0.13	0.05
Secure Admin Facility (WHS) (2008), building construction	124.35	29.80	1.79	1.74	4.04	5.04
Access Road/Control Point, building construction	0.01	0.00	0.00	0.00	0.00	0.00
Access Road/Control Point, clearing and grading	0.01	0.02	0.00	0.00	0.00	0.00
Access Road/Control Point, paving	0.01	0.02	0.00	0.00	0.00	0.00
Secure Admin Facility (WHS) (2009 Parking Garage), building construction	111.77	25.38	1.56	1.51	3.64	4.27
Secure Admin Facility (WHS) (2009), building construction	124.01	28.16	1.73	1.68	4.04	4.73
Secure Admin Facility (WHS), landscaping	1.90	0.01	0.00	0.00	0.00	0.05
Secure Admin Facility (WHS), paving	0.04	0.08	0.01	0.01	0.02	0.00
Total Non-Road	365.13	89.33	5.45	5.28	12.69	14.46

Source: USEPA NONROAD2004; SCAQMD, 1993.

Table E-A-4
Worker trip emissions (tons) (GSA site alternative)

Project	Trips	Distance [miles]	Duration [days]	EF^a VMT^a	EF^a NO_x	EF^a NO_x	EF^a PM₁₀	EF^a PM₁₀	EF^a PM_{2.5}	EF^a PM_{2.5}	EF^a SO₂	EF^a SO₂	EF^a VOC	EF^a VOC
Secure Admin Facility (WHS), demolition, clearing and grading	53	30	113	178,771	0.32	0.06	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.06
Infrastructure (2008), building construction	9	30	85	22,968	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Infrastructure, clearing and grading	11	30	85	28,890	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Secure Admin Facility (WHS) (2008), building construction	799	30	230	5,511,996	0.32	1.92	0.01	0.07	0.01	0.07	0.01	0.06	0.29	1.76
Access Road/Control Point, building construction	0	30	38	229	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00
Access Road/Control Point, clearing and grading	1	30	19	721	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00
Access Road/Control Point, paving	1	30	38	1,423	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00

Table E-A-4
Worker trip emissions (tons) (GSA site alternative) (continued)

Project	Trips	Distance [miles]	Duration [days]	VTM ^a	EF ^a NO _x	EF ^a NO _x	EF ^a PM ₁₀	EF ^a PM ₁₀	EF ^a PM _{2.5}	EF ^a PM _{2.5}	EF ^a SO ₂	EF ^a SO ₂	EF ^a VOC	EF ^a VOC
Secure Admin Facility (WHS) (2009 Parking Garage), building construction	720	30	230	4,968,000	0.32	1.73	0.01	0.06	0.01	0.06	0.01	0.05	0.29	1.59
Secure Admin Facility (WHS) (2009), building construction	799	30	230	5,511,996	0.32	1.92	0.01	0.07	0.01	0.07	0.01	0.06	0.29	1.76
Secure Admin Facility (WHS), landscaping	19	30	28	15,746	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Secure Admin Facility (WHS), paving	6	30	28	5,329	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00

Source: USEPA MOBILE 6.2; SCAQMD, 1993.

^a VMT = vehicle miles traveled; EF = emission factor

Table E-A-5
Architectural coating emissions (paint) (GSA site alternative)

Project	Heated Area	Wall Surface	EF ^a VOC [lbs/1000 ft ²]	VOC [tons]
Infrastructure (2008), building construction	12,500	25,000	55.5	0.03
Secure Admin Facility (WHS) (2008), building construction	1,109,500	2,219,000	55.5	2.31
Access Road/Control Point, building construction	280	560	55.5	0
Secure Admin Facility (WHS) (2009 Parking Garage), building construction	1,000,000	2,000,000	55.5	2.09
Secure Admin Facility (WHS) (2009), building construction	1,109,500	2,219,000	55.5	2.31
Total architectural coating emissions				6.74

Source: SCAQMD, 1993.

^a EF = emission factor

Table E-A-6
Fugitive dust emissions (GSA site alternative)

Project	PM ₁₀ /TSP ^a	PM _{2.5} /PM ₁₀	EF TSP ^a [lbs/acre/day]	Capture Fraction	Duration of Grading [days]	Cleared Area [acres]	PM ₁₀ [tons]	PM _{2.5} [tons]
Secure Admin Facility (WHS), Demolition, clearing and grading	0.45	0.15	80	0.5	113.42	42.03	4.29	0.64
Infrastructure, clearing and grading	0.45	0.15	80	0.5	85.07	9.06	0.69	0.10
Access Road/Control Point, clearing and grading	0.45	0.15	80	0.5	18.90	1.02	0.02	0.00
Total fugitive dust emissions							5.00	0.75

Source: AP-42 Section 13.2.3 (USEPA, 1995); USEPA, 2005.

^a TSP = total suspended particulates; EF = emission factor

Table E-A-7
Project areas and durations (Victory Center alternative)

Project name	Year	Duration [days]	Building area [ft²]	Landscaping [acres]	Paving [acres]
Infrastructure (2008), Building Construction	2008	135	12,500	0.0	0.0
Secure Admin Facility (WHS) (2008), Building Construction	2008	365	500,000	0.0	0.0
Access Road/Control Point, Building Construction	2009	60	280	0.0	0.0
Access Road/Control Point, Paving	2009	60	0	0.0	1.0
Secure Admin Facility (WHS) (2009), Building Construction	2009	365	400,000	0.0	0.0
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	2010	365	650,000	0.0	0.0
Secure Admin Facility (WHS) (2010), Building Construction	2010	365	400,000	0.0	0.0
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	2011	365	650,000	0.0	0.0
Secure Admin Facility (WHS), Landscaping	2011	45	0	18.5	0.0
Secure Admin Facility (WHS), Paving	2011	45	0	0.0	5.0

Table E-A-8
Annual equipment use (Victory Center alternative)

Equipment type	2008	2009	2010	2011	Total Hours
Trimmers/Edgers/Brush Cutter	0.0	0.0	0.0	209.9	209.9
Lawn mowers	0.0	0.0	0.0	314.9	314.9
Lawn & Garden Tractors	0.0	0.0	0.0	367.4	367.4
Generator Sets	8,124.4	6,440.7	16,905.0	10,465.0	41,935.2
Air Compressors	4,642.5	3,680.4	9,660.0	5980	2,3963
Pavers	0.0	26.6	0.0	99.5	126
Plate Compactors	9,285.1	7376	19,320.0	12,016.8	47,997.9
Rollers	0.0	53.1	0.0	198.9	252.1
Cement & Mortar Mixers	16,248.9	12,881.5	33,810.0	20,930.0	83,870.4
Cranes	16,248.9	12,881.5	33,810.0	20,930.0	83,870.4
Off-highway Trucks	16,248.9	12,908.1	33,810.0	21,396.9	84,363.8
Tractors/Loaders/Backhoes	16,248.9	12,881.5	33,810.0	20,930.0	83,870.4

Table E-A-9
Heavy equipment emissions (Victory Center alternative)

Project	CO [tons]	NO_x [tons]	PM₁₀ [tons]	PM_{2.5} [tons]	SO₂ [tons]	VOC [tons]
Infrastructure (2008), Building Construction	0.13	0.35	0.02	0.02	0.05	0.03
Secure Admin Facility (WHS) (2008), Building Construction	13.91	37.67	2.56	2.49	4.93	3.13
Access Road/Control Point, Building Construction	0.00	0.00	0.00	0.00	0.00	0.00
Access Road/Control Point, Paving	0.02	0.06	0.00	0.00	0.01	0.00
Secure Admin Facility (WHS) (2009), Building Construction	10.78	28.59	1.98	1.93	3.94	2.38
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	17.08	44.20	3.14	3.06	6.41	3.67
Secure Admin Facility (WHS) (2010), Building Construction	10.51	27.20	1.93	1.88	3.94	2.26
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	15.70	40.95	3.64	3.55	6.22	3.54
Secure Admin Facility (WHS), Landscaping	2.07	0.40	0.04	0.04	0.07	0.08
Secure Admin Facility (WHS), Paving	0.08	0.19	0.02	0.02	0.03	0.01
Total Non-Road	70.28	179.61	13.34	12.99	25.60	15.10

Source: USEPA NONROAD2004; SCAQMD, 1993.

Table E-A-10
Worker trip emissions (tons) (Victory Center alternative)

Project	Trips	VTM^a	EF^a CO	CO	EF^a NO_x	NO_x	EF^a PM₁₀	PM₁₀	EF^a PM_{2.5}	PM_{2.5}	EF^a SO₂	SO₂	EF^a VOC	VOC
Infrastructure (2008), Building Construction	9	22,968	4.05	0.10	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Secure Admin Facility (WHS) (2008), Building Construction	360	2,484,000	4.05	11.07	0.32	0.86	0.01	0.03	0.01	0.03	0.01	0.03	0.29	0.79
Access Road/Control Point, Building Construction	0	229	4.05	0.00	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00
Access Road/Control Point, Paving	1	1,423	4.05	0.01	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00
Secure Admin Facility (WHS) (2009), Building Construction	288	1,987,200	4.05	8.86	0.32	0.69	0.01	0.03	0.01	0.02	0.01	0.02	0.29	0.64
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	468	3,229,200	4.05	14.39	0.32	1.12	0.01	0.04	0.01	0.04	0.01	0.03	0.29	1.03
Secure Admin Facility (WHS) (2010), Building Construction	288	1,987,200	4.05	8.86	0.32	0.69	0.01	0.03	0.01	0.02	0.01	0.02	0.29	0.64
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	468	3,229,200	4.05	14.39	0.32	1.12	0.01	0.04	0.01	0.04	0.01	0.03	0.29	1.03
Secure Admin Facility (WHS), Landscaping	19	15,746	4.05	0.07	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Secure Admin Facility (WHS), Paving	6	5,329	4.05	0.02	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00

Source: USEPA MOBILE 6.2; SCAQMD 1993.

^a VMT = vehicle miles traveled; EF = emission factor

Table E-A-11
Architectural coating emissions (paint) (Victory Center alternative)

Project	Heated Area	Wall Surface	EF^a VOC [lbs/1000 ft²]	VOC [tons]
Infrastructure (2008), Building Construction	12,500	25,000	55.5	0.03
Secure Admin Facility (WHS) (2008), Building Construction	500,000	1,000,000	55.5	1.04
Access Road/Control Point, Building Construction	280	560	55.5	0.00
Secure Admin Facility (WHS) (2009), Building Construction	400,000	800,000	55.5	0.83
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	650,000	1,300,000	55.5	1.36
Secure Admin Facility (WHS) (2010), Building Construction	400,000	800,000	55.5	0.83
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	650,000	1,300,000	55.5	1.36
Total Architectural Coating Emissions				5.45

Source: SCAQMD, 1993.

^a EF = emission factor

Table E-A-12
Project areas and durations (Mark Center alternative)

Project name	Year	Duration [days]	Building area [ft²]	Landscaping [acres]	Paving [acres]
Infrastructure (2008), Building Construction	2008	135	12,500	0.0	0.0
Secure Admin Facility (WHS) (2008), Building Construction	2008	365	350,000	0.0	0.0
Access Road/Control Point, Building Construction	2009	60	280	0.0	0.0
Access Road/Control Point, Paving	2009	60	0	0.0	1.0
Secure Admin Facility (WHS) (2009), Building Construction	2009	365	500,000	0.0	0.0
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	2010	365	650,000	0.0	0.0
Secure Admin Facility (WHS) (2010), Building Construction	2010	365	500,000	0.0	0.0
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	2011	365	650,000	0.0	0.0
Secure Admin Facility (WHS), Landscaping	2011	45	0	18.5	0.0
Secure Admin Facility (WHS), Paving	2011	45	0	0.0	5.0

Table E-A-13
Annual equipment use (Mark Center alternative)

Equipment type	2008	2009	2010	2011	Total Hours
Trimmers/Edgers/Brush Cutter	0.0	0.0	0.0	209.9	209.9
Lawn mowers	0.0	0.0	0.0	314.9	314.9
Lawn & Garden Tractors	0.0	0.0	0.0	367.4	367.4
Generator Sets	5,709.4	8,050.7	18,515.0	10,465.0	42,740.2
Air Compressors	3,262.5	4,600.4	10,580.0	5,980.0	2,4423
Pavers	0.0	26.6	0.0	99.5	126
Plate Compactors	6,525.1	9216	21160.0	12,016.8	48,917.9
Rollers	0.0	53.1	0.0	198.9	252.1
Scrapers	1,187.0	0.0	0.0	0.0	1,187.0
Cement & Mortar Mixers	11,418.9	16,101.5	37,030.0	20,930.0	85,480.4
Cranes	11,418.9	16,101.5	37,030.0	20,930.0	85,480.4
Graders	1,187.0	0.0	0.0	0.0	1,187.0
Off-highway Trucks	12,605.9	16,128.1	37,030.0	21,396.9	87,160.8
Tractors/Loaders/Backhoes	12,605.9	16,101.5	37,030.0	20,930.0	86,667.3
Crawler Tractor/Dozers	1,187.0	0.0	0.0	0.0	1,187.0

Table E-A-14
Heavy equipment emissions (Mark Center alternative)

Project	CO [tons]	NO_x [tons]	PM₁₀ [tons]	PM_{2.5} [tons]	SO₂ [tons]	VOC [tons]
Infrastructure (2008), Building Construction	0.13	0.35	0.02	0.02	0.05	0.03
Secure Admin Facility (WHS), Demolition, Clearing and Grading	1.91	4.81	0.34	0.33	0.76	0.33
Secure Admin Facility (WHS) (2008), Building Construction	9.73	26.37	1.79	1.74	3.45	2.19
Access Road/Control Point, Building Construction	0.00	0.00	0.00	0.00	0.00	0.00
Access Road/Control Point, Paving	0.02	0.06	0.00	0.00	0.01	0.00
Secure Admin Facility (WHS) (2009), Building Construction	13.48	35.74	2.48	2.41	4.93	2.97
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	17.08	44.20	3.14	3.06	6.41	3.67
Secure Admin Facility (WHS) (2010), Building Construction	13.14	34.00	2.41	2.35	4.93	2.83
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	15.70	40.95	3.64	3.55	6.22	3.54
Secure Admin Facility (WHS), Landscaping	2.07	0.40	0.04	0.04	0.07	0.08
Secure Admin Facility (WHS), Paving	0.08	0.19	0.02	0.02	0.03	0.01

Source: USEPA NONROAD2004 and SCAQMD, 1993

Table E-A-15
Worker trip emissions (tons) (Mark Center alternative)

Project	Trips	VTM ^a	EF ^a CO	CO	EF ^a NO _x	NO _x	EF ^a PM ₁₀	PM ₁₀	EF ^a PM _{2.5}	PM _{2.5}	EF ^a SO ₂	SO ₂	EF ^a VOC	VOC
Infrastructure (2008), Building Construction	9	22,968	4.05	0.10	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Secure Admin Facility (WHS), Clearing and Grading	19	63,589	4.05	0.28	0.32	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.02
Secure Admin Facility (WHS) (2008), Building Construction	252	1,738,800	4.05	7.75	0.32	0.6	0.01	0.02	0.01	0.02	0.01	0.02	0.29	0.56
Access Road/Control Point, Building Construction	0	229	4.05	0.00	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00
Access Road/Control Point, Paving	1	1,423	4.05	0.01	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00
Secure Admin Facility (WHS) (2009), Building Construction	360	2,484,000	4.05	11.07	0.32	0.86	0.01	0.03	0.01	0.03	0.01	0.03	0.29	0.79
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	468	3,229,200	4.05	14.39	0.32	1.12	0.01	0.04	0.01	0.04	0.01	0.03	0.29	1.03
Secure Admin Facility (WHS) (2010), Building Construction	360	2,484,000	4.05	11.07	0.32	0.86	0.01	0.03	0.01	0.03	0.01	0.03	0.29	0.79
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	468	3,229,200	4.05	14.39	0.32	1.12	0.01	0.04	0.01	0.04	0.01	0.03	0.29	1.03
Secure Admin Facility (WHS), Landscaping	19	15,746	4.05	0.07	0.32	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.01
Secure Admin Facility (WHS), Paving	6	5,329	4.05	0.02	0.32	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.29	0.00

Source: USEPA MOBILE 6.2 and SCAQMD, 1993

^a VMT = vehicle miles traveled; EF = emission factor

Table E-A-16
Architectural coating emissions (paint) (Mark Center alternative)

Project	Heated Area	Wall Surface	EF ^a VOC [lbs/1000 ft ²]	VOC [tons]
Infrastructure (2008), Building Construction	12,500	25,000	55.5	0.03
Secure Admin Facility (WHS) (2008), Building Construction	350,000	700,000	55.5	0.73
Access Road/Control Point, Building Construction	280	560	55.5	0.00
Secure Admin Facility (WHS) (2009), Building Construction	500,000	1,000,000	55.5	1.04
Secure Admin Facility (WHS) (2010 Parking Garage), Building Construction	650,000	1,300,000	55.5	1.36
Secure Admin Facility (WHS) (2010), Building Construction	500,000	1,000,000	55.5	1.04
Secure Admin Facility (WHS) (2011 Parking Garage), Building Construction	650,000	1,300,000	55.5	1.36
Total Architectural Coating Emissions				5.56

Source: SCAQMD, 1993

^a EF = emission factor

Table E-A-17
Emergency generator emissions (all alternatives)

	Each	Total diesel consumption limit	NO _x (lb/ 10 ³ gal)	NO _x (tpy)	CO (lb/ 10 ³ gal)	CO (tpy)	VOC (lb/ 10 ³ gal)	VOC (tpy)	PM (lb/ 10 ³ gal)	PM (tpy)	SO _x (lb/ 10 ³ gal)	SO _x (tpy)
	(bhp)	(gal/yr)										
	2,937	170,000	251.2	21.35	13.8	1.17	5.0	0.42	1.2	0.104	138S	0.59
Total Potential to Emit	-	-	-	21.35	-	1.17	-	0.42	-	0.10	-	0.59
Estimated Actual Emissions				10.68		0.58		0.21		0.05		0.29

Notes:

1. Fuel Consumption = 138.9 gallons per hour.

2. Although all engines will be Tier II certified, nominal manufacturer's data were used for the NO_x emission factor, CO emission factor, and PM emission factor included in these calculations. Emissions data were not provided for PM₁₀, so it was assumed that PM₁₀ = PM. The emission factor for SO_x was obtained from USAF IERA Air Emissions Inventory Guidance for Stationary Sources at Air Force Installations, 1999, Revised December 2003. The SO_x emission factor uses "S", a sulfur content of 0.05 wt%.

Table E-A-18
BRAC 133 boiler emissions (all alternatives)

	Total Fuel Limit	NO _x (lb/ 10 ⁶ cf)	NO _x (tpy)	CO (lb/ 10 ⁶ cf)	CO (tpy)	VOC (lb/ 10 ⁶ cf)	VOC (tpy)	PM (lb/ 10 ⁶ cf)	PM (tpy)	SO _x (lb/ 10 ⁶ cf)	SO _x (tpy)
Natural gas ^a											
	485,000,000 cf/yr	18	4.37	84	20.37	5.5	1.33	7.6	1.84	0.6	0.15
TOTAL	905,000,000 cf/yr	-	11.93	-	38.01	-	2.49	-	3.44	-	0.27
No. 2 Fuel oil ^b		(lb/ 10 ³ gal)	(tpy)	(lb/ 10 ³ gal)	(tpy)	(lb/ 10 ³ gal)	(tpy)	(lb/ 10 ³ gal)	(tpy)	(lb/ 10 ³ gal)	(tpy)
	610,000 gal/yr	20	6.10	5	1.53	0.34	0.10	3.3	1.01	7.2	2.20
TOTAL	960,000 gal/yr	-	9.60	-	2.40	-	0.16	-	1.58	-	3.46
Total potential to emit		-	21.53	-	40.41	-	2.65	-	5.02	-	3.73
Estimated actual emissions			16.14		30.31		1.99		3.77		2.80

Notes:

1. Heat input = 114,320,000 BTU per hour.

^a Natural gas emission factors for all pollutants except NO_x were obtained from USEPA's AP-42, Section 1.4 (USEPA, 1995). The low NO_x burners reduce NO_x emissions to 30 ppm and 15 ppm according to manufacturer specifications. Using a standard conversion: lb/MMBtu = ppm / 850, the NO_x emission factor appropriate for burning natural gas in the proposed burners is 0.035 lb/MMBtu or 36 lb/MMcf, and 0.018 lb/MMBtu or 18 lb/MMcf. This conversion assumes that the NO_x concentration reflects 3% oxygen. Conservatively assumed that PM₁₀ = PM.

^b No. 2 fuel oil emission factors for all pollutants were obtained from USEPA's AP-42, Section 1.3 (USEPA, 1995). Conservatively assumed that PM₁₀ = PM. The SO_x emission factor uses a sulfur content of 0.05 wt%.

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APPENDIX E.2

METHODOLOGY FOR THE DETERMINATION OF LOCALIZED CO CONCENTRATIONS AT INTERSECTIONS OF INTEREST

The CO microscale air-quality analysis is based on procedures outlined in the following documents:

- Guideline for Modeling CO From Roadway Intersections (USEPA, 1992); and
- *MOBILE6.2* User's Guide (USEPA, 2002).

Carbon monoxide concentrations are determined in two steps: 1) vehicle exhaust emission factors are calculated using the USEPA *MOBILE6.2* computer model; and 2) these emission factors are subsequently used as input for the USEPA CAL3QHC dispersion model. The models used are described as follows:

- *MOBILE6.2* generates vehicular emission factors based on locality-specific vehicle fleet characteristics including vehicle age, operating mode of vehicles (hot/cold starts), and percentage of oxygenated fuel used. Input files containing the latest planning assumptions for Fairfax County were provided by the Metropolitan Washington Council of Governments (MWCOC).
- CAL3QHC predicts the level of CO or other pollutant concentrations from motor vehicles traveling near roadway intersections. The model incorporates inputs such as roadway geometry, traffic volumes, vehicular emission rates, and meteorological conditions.

The intersection location determinations and CO estimations were made through the following process:

1. Traffic, operating conditions, roadway configurations, and geometry information was gathered for roadways and intersections of interest.
2. Potential worst-case roadways were identified based on the level of service and traffic flow.
3. Worst-case receptor locations were identified as the location of maximum CO concentration.
4. *MOBILE6.2* and CAL3QHC were used to calculate CO concentrations due to vehicle traffic at identified "worst-case" roadway and receptor locations.
5. Persistence factor of 0.7 was used to estimate the 8-Hour concentration from the 1-Hour concentration.
6. Background concentrations at the intersection were determined using local monitoring data obtained from the VDEQ and added to modeled concentrations.

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APPENDIX E.3
RECORD OF NON-APPLICABILITY (RONA)
TO THE GENERAL CONFORMITY RULE

Record of Non-Applicability (RONA) to the General Conformity Rule for the Victory
Center Alternative for the Proposed BRAC 133 Activities, Alexandria, VA E-26

Record of Non-Applicability (RONA) to the General Conformity Rule for the Mark
Center Alternative for the Proposed BRAC 133 Activities, Alexandria, VA E-27

**Record of Non-Applicability (RONA)
to the General Conformity Rule
for the Victory Center Alternative
for the Proposed BRAC 133 Activities
Alexandria, VA**

May 8, 2008

Air emissions were estimated for the construction and operation of the proposed BRAC 133 facilities at the proposed Victory Center site in Alexandria, VA. Emissions from land clearing and grading, construction of buildings, associated parking areas and structures, traffic control upgrades, storm water systems and support utility upgrades, and landscaping were assessed. Operational emissions from commuter vehicles, emergency generators, and boilers were assessed. General Conformity under the Clean Air Act, Section 176 has been evaluated according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this alternative because:

The highest total annual direct and indirect emissions from this proposed action have been estimated at 36.5 tons CO, 72.1 tons NO_x, 7.4 tons VOCs, 5.0 ton PM_{2.5} and 10.4 tons SO₂ per year, which would be below the conformity threshold values of 50 tons VOCs and 100 tons for CO, SO₂, PM_{2.5}, and NO_x, and would not be *regionally significant*.

This RONA is wholly incorporated into the Environmental Assessment (EA) for the proposed BRAC 133 action. As such, the signatory authority of the EA approves the air quality conformity determination and RONA by default.

Supported documentation and emission estimates:

- ☐ Are Attached
- ☒ Appear in the NEPA Documentation
- ☐ Other (Not Necessary)

**Record of Non-Applicability (RONA)
to the General Conformity Rule
for the Mark Center Alternative
for the Proposed BRAC 133 Activities
Alexandria, VA**

May 8, 2008

Air emissions were estimated for the construction and operation of the proposed BRAC 133 facilities at the proposed Mark Center site in Alexandria, VA. Emissions from land clearing and grading, construction of buildings, associated parking areas and structures, traffic control upgrades, stormwater systems and support utility upgrades, and landscaping were assessed. Operational emissions from commuter vehicles, emergency generators, and boilers were assessed. General Conformity under the Clean Air Act, Section 176 has been evaluated according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this alternative because:

The highest total annual direct and indirect emissions from this proposed action have been estimated at 43.3 tons CO, 79.1 tons NO_x, 8.3 tons VOCs, 5.4 ton PM_{2.5} and 11.4 tons SO₂ per year, which would be below the conformity threshold values of 50 tons VOCs and 100 tons for CO, SO₂, PM_{2.5}, and NO_x, and would not be *regionally significant*.

This RONA is wholly incorporated into the Environmental Assessment (EA) for the proposed BRAC 133 action. As such, the signatory authority of the EA approves the air quality conformity determination and RONA by default.

Supported documentation and emission estimates:

- ☐ Are Attached
- ☒ Appear in the NEPA Documentation
- ☐ Other (Not Necessary)

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APPENDIX E.4
VDEQ CERTIFICATION LETTER FOR THE FORT
BELVOIR BRAC GENERAL CONFORMITY
DETERMINATION (GCD)



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
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July 16, 2007

Colonel Brian W. Lauritzen
Garrison Commander, Fort Belvoir
9340 Jackson Loop, Suite 100
Fort Belvoir, Virginia 23060

Dear Colonel Lauritzen:

The purpose of this letter is to transmit the determination of the Virginia Department of Environmental Quality (VADEQ) pursuant to the proposed demonstration of conformity for the Fort Belvoir Base Realignment and Closure (BRAC) expansion project. This demonstration is required by Section 176 of the Clean Air Act and the State Regulation for General Conformity (9 VAC 5 Chapter 160). This determination is the result of these requirements and significant discussions between VADEQ and the project sponsor. As you already know, this project is of particular interest and concern to us because of its location in Northern Virginia which is the Commonwealth's most persistent area of noncompliance for several National Ambient Air Quality Standards (NAAQS).

To make this determination, we have received and reviewed the following documents and associated data provided by the Army concerning this project:

- The draft Environmental Impact Statement (EIS) and general conformity determination released for public review and comment on March 2, 2007.
- The June 5, 2007 letter from the Garrison Commander of Fort Belvoir and proposed air quality mitigation (AQM) plan.
- The June 25 electronic mail message from Ms. Kelly Lease transmitting a revised AQM plan.
- The June 28 electronic mail message from Ms. Kelly Lease transmitting additional data requested by VADEQ, and a further revised AQM plan.
- The July 3 electronic mail message from Ms. Kelly Lease transmitting revised NOx project emission data.

- The July 16 letter from the Garrison Commander indicating acceleration of the completion schedule for the hospital project.

Based on the cumulative information provided on this project as described above and evaluation of the appropriate SIP emissions budgets, the VADEQ has determined and therefore certifies that this project and the resulting emissions at Fort Belvoir are accounted for in the State Implementation Plan (SIP) for the Metropolitan Washington, D. C. area. The authority for the Commonwealth to make this determination is provided for in 40 CFR 93.158(a)(5)(i)(A). The basis for making this determination is documented in the Enclosure to this letter. To make this determination, the Commonwealth has used its authority and discretion to assign a specific amount of the SIP budgets for Northern Virginia to this project. This determination has been shared with EPA Region III who on July 11 indicated their approval with the approach further described in the Enclosure to this letter.

Please be aware that this determination has been made based on the cumulative information provided by the Army on this project, including the latest (6/28) version of the project air quality mitigation plan and associated emission reduction estimates. This determination is also contingent upon the conditions identified in a separate letter from the VADEQ concerning federal consistency with the coastal program. If the scope of the overall project, and/or the mitigation plan is significantly revised, then this determination would have to be revisited.

I would like to thank you and the staff involved for your hard work and commitment to coming to what I believe is a mutually beneficial conclusion. Any questions or comments on the content of this letter should be directed to Mr. Tom Ballou of my staff at (804) 698-4406 or trballou@deq.virginia.gov.

Sincerely,



James E. Sydnor
Director, Air Quality Division

Enclosure

JES\trb

cc: P. McLaughlin, Fort Belvoir
T. Ballou, VADEQ
E. Irons, VADEQ
J. Katz, EPA Region III

ENCLOSURE

Fort Belvoir BRAC Expansion Project and SIP Budget Analysis

Background

Based on the 2005 Base Realignment and Closure (BRAC) Law, a significant expansion to the Army's Fort Belvoir will take place by 2011 to accommodate about 22,000 additional personnel. To accomplish this aim, the Army plans a major construction project involving 6 million square feet of built space and 7 million square feet in parking facilities. Fort Belvoir is located in Fairfax County, VA which is part of the Metropolitan Washington, D. C. area. This same area is currently a nonattainment area for both the 8-hour ozone (O₃) and fine particulate matter (PM_{2.5}) National Ambient Air Quality Standards (NAAQS).

This project will produce a significant amount of air pollutant emissions during the construction phase. In fact, the amount of emissions of oxides of nitrogen (NO_x) will exceed the major threshold level of 100 tons/year of the general conformity provisions of the Clean Air Act during every year of the five-year construction program, with a worst-case emissions scenario in 2009 of 1.81 tons/ozone season day.

As a result, the Army has been required to make a conformity determination for this project pursuant to Section 176 of the CAA, which shows that this project conforms to the air quality plan and goals for the nonattainment area. Currently, there are two SIPs that are applicable to the Washington, D. C. ozone nonattainment area which pertain to this situation. The first is the previous 1-hour ozone standard SIP that has been approved by EPA. The second is the 8-hour ozone standard SIP that was submitted to the EPA on June 12, 2007.

Discussions with the Army on this project began in late 2006 and have concluded in the analysis and conformity determination presented below:

Conformity Analysis and Determination

As mentioned earlier, the emissions of primary concern result from the construction phase of the Belvoir project and involve demolition and construction activities involving the use of various "nonroad" equipment, power generators, and trucks. In general, emissions estimates and budgets for these types of activities are developed and included in a given air quality plan for any nonattainment area. These budgets represent the best available estimate of current and future construction activities in the area based on factors that contribute to such activities. Furthermore, these budgets are meant to cover typical construction projects such as roads, residential buildings, and office buildings, as well as large projects such as the Fort Belvoir expansion. In the

case of both DC-specific SIPs mentioned above, such construction emission estimates and budgets are included. Since these estimates are meant to cover the entire nonattainment area, which includes the District of Columbia and parts of Maryland, only the estimates and budgets for Northern Virginia have been used in this analysis. Furthermore, most of this analysis has been limited to Fairfax County as the primary area of concern.

In the case of the 1-hour ozone standard, an estimate and budget for NO_x emissions from construction activities in Fairfax County is set at 15.40 tons/day in 2005 which is the last applicable year of this SIP. However, this estimate was developed using a now obsolete and overestimated methodology. The 8-hour ozone standard SIP contains an estimate and budget for NO_x emissions from construction activities in Fairfax County of 5.43 tons/day in 2009. This estimate is based on the latest approved EPA methodology for estimating these emissions, and is therefore a more reasonable estimate of construction emissions with which to compare this project during the time period of interest.

When assigning emissions to a given area like Northern Virginia or Fairfax County, various indicators (or surrogates) are used in the inventory development process. Likewise, a similar process has been used in this case to allocate a portion of the overall county emissions to the specific project involved. After evaluating a number of possible data surrogates, the percentage of land available for new development within the County was selected as the most appropriate indicator. Based on independent analyses by the Army and VADEQ, it was determined that there is approximately 32,000 acres of undeveloped land in Fairfax County. Of this total, about 4,500 acres are within Fort Belvoir. This results in the conclusion that the total county land area that is available for development within Fort Belvoir is about 14%. Based on this percentage, 2.13 tons/day of NO_x emissions in the 1-hour SIP, and 0.75 tons/day of NO_x in the 8-hour SIP can be reasonably allocated to Fort Belvoir for any given year.

The latest information from the Army indicates that the un-mitigated construction emissions for this project will range from 0.18 to 1.81 tons/day during the construction period. However, the Army has committed to an aggressive air quality mitigation plan that will reduce NO_x emissions by about 35% during the construction project. Based on this commitment, the project will produce between 0.13 to 1.18 tons/day NO_x during the same period. As a result, the project will exceed the 8-hour SIP default project allocation by only 0.23 to 0.43 tons/year during 2008 to 2010.

Given the substantial commitments and resulting emissions reductions made by the Army in the final project air quality mitigation plan, the VADEQ on behalf of the Commonwealth will use its authority and discretion to allocate up

to an additional 0.43 tons/day of the overall Northern Virginia construction emissions budget (17.58 tons/day) to the Fort Belvoir construction phase from 2008 to 2010 to accommodate the remaining emissions from this project. This is a reasonable accommodation considering the project size.

Fort Belvoir BRAC Project NOx SIP Budgets Comparison							
	Fairfax County 1-hour Ozone Construction Equipment SIP Budget (tons per day)	Fort Belvoir 1- hour Ozone Construction Equipment SIP Allocation Based On Developable Land (tons per day)	Fairfax County 8-hour Ozone Construction Equipment SIP Budget (tons per day)	Fort Belvoir 8- hour Ozone Construction Equipment SIP Allocation Based On Developable Land (tons per day)	Unmitigated BRAC Emissions (tons per day during ozone season)	Mitigated BRAC Emissions (tons per day during ozone season) ¹	Fort Belvoir 8-hour SIP Allocation Exceedance (tons per day during ozone season)
2007	15.4	2.13	5.63	0.78	0.56	0.37	-
2008	15.4	2.13	5.63	0.78	1.54	1.01	0.23
2009	15.4	2.13	5.43	0.75	1.81	1.18	0.43
2010	15.4	2.13	5.43	0.75	1.72	1.13	0.38
2011	15.4	2.13	5.43	0.75	0.18	0.13	-

¹ Mitigations include anti-idling restrictions and limiting use of off-road trucks during June 1 through August 31 during the project.
Emissions allocated to overall Northern Virginia construction emissions budget.

Developable Land Calculation	
Fort Belvoir Developable Land (acres)	4,490
Fairfax County Developable Land (acres)	32,391
Fort Belvoir Share	13.9%

Source: Fairfax County Government website; <http://www.fairfaxcounty.gov/demogrph/demrpts/nlupd.pdf>; Fairfax County Land Use Information Table 10.12 Acres of Land by Land Use Category by Planning District, Fairfax County, January 2004.

Northern Virginia Construction and Mining Equipment Emissions for 2009		
	VOC (tons per day)	NOx (tons per day)
Alexandria	0.00	0.00
Arlington	0.49	3.38
Fairfax city	0.00	0.00
Fairfax county	0.79	5.43
Falls church city	0.00	0.00
Prince William	0.52	3.56
Manassas city	0.00	0.00
Manassas Park city	0.00	0.00
Loudoun	0.76	5.21
Total Construction & Mining	2.55	17.58
Total Nonroad Emissions	36.39	37.03

Source: MWCOG, Metropolitan Washington DC-MD-VA Moderate Area SIP for 8-hour Ozone, May 23, 2007.

APPENDIX E.5
FORT BELVOIR BRAC CONSTRUCTION
PERFORMANCE PLAN (CPP)

FINAL

***Construction Performance Plan for the Reduction of Air Emissions for
Implementation of 2005 Base Realignment and Closure (BRAC)
Recommendations and Related Army Actions at Fort Belvoir, Virginia***



Prepared for

Fort Belvoir, Virginia

by the

U.S. Army Corps of Engineers, Mobile District

July 2007

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1.0 Introduction

The U.S. Army has developed design and construction standards for equipment and vehicles that reduce air emissions through use restrictions on critical ozone days, diesel oxidation catalysts (DOCs), ultra-low sulfur diesel fuel (ULSD), idling restrictions, and cleaner vehicle options. This construction performance contract plan outlines policy and procedures for complying with emissions reduction requirements and air quality laws of the Commonwealth of Virginia during the period of construction for the Base Realignment and Closure (BRAC) and related activities at Fort Belvoir. This construction performance plan will be enacted during years that the project is expected to exceed the applicability threshold levels for air emissions in the National Capital Interstate Air Quality Control Region.

2.0 Code Red and Purple Ozone Days

Requirements

Contractors and sub-contractors shall not operate diesel powered non-road construction equipment with engine horsepower (HP) ratings of 60 HP and above on predicted Code Red and predicted Purple Ozone days. This restriction will be in effect between 7am to 5pm on the first two predicted Code Red or predicted Purple Ozone days during the period beginning June 1 and ending on August 31 of each calendar year.

Exemptions

The following activities are exempt from this requirement:

1. Operations for mandatory for testing, servicing, repairing, or diagnostic purposes;
2. Operations when verifying that the equipment is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine operation is mandatory for such verification;
3. Operation of authorized emergency vehicles while in the course of providing services for which the vehicle is designed; or
4. Operation for loading or offloading deliveries scheduled more than one day in advance.

Reporting Requirements

There are no special reporting requirements under the Code Red and Purple Ozone Days policy.

3.0 Code Orange Ozone Days

Requirements

Contractors and sub-contractors shall not operate diesel powered non-road construction equipment with engine horsepower (HP) ratings of above 600 HP unless equipped with selective catalytic reduction emission controls on predicted Code Orange days. This restriction will be in effect between 7am to 5pm on predicted Code Orange Ozone days during the period beginning June 1 and ending on August 31 of each calendar year.

Exemptions

The following activities are exempt from this requirement:

1. At the contractor's discretion, operations on the 3rd consecutive predicted Code Orange days, and subsequent consecutive predicted Code Orange days are exempt from this requirement;
2. This requirement is limited to a total of 10 days per year of limited operations;
3. Operations for mandatory for testing, servicing, repairing, or diagnostic purposes;
4. Operations when verifying that the equipment is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine operation is mandatory for such verification;
5. Operation of authorized emergency vehicles while in the course of providing services for which the vehicle is designed; or
6. Operation for loading or offloading deliveries scheduled more than one day in advance.
7. The use of cranes after the period when clearing and grading would occur.

Reporting Requirements

The contractor must include the dates which they enforce this requirement in their monthly report.

4.0 Limited Off-Road Trucks or Use of New Emission Standard Vehicles

Requirements

Contractors and sub-contractors shall not operate trucks that do not meet the on road emission standards for the National Capital Region. This restriction will be in effect beginning June 1 and ending on August 31 of each calendar year.

Exemptions

The following activities are exempt from this requirement:

1. The use of tier 2, 3 or 4 compliant nonroad trucks;
2. The use of nonroad trucks that have been retrofitted with selective catalytic reduction control technology;
3. The limited use of nonroad trucks that have prior approval from the ACO and Fort Belvoir ENRD; or
4. The use of nonroad trucks required ensuring safe and OSHA compliant construction operations.

Reporting Requirements

Construction shall not proceed until the contractor submits a list of the non-road and onroad diesel powered trucks that will be used onsite during the initial month of onsite work. The list shall include (1) the equipment number, type, make, and contractor/sub-contractor name; (2) the emission control device make, model and EPA verification number; (3) the type and source of fuel to be used; and (4) total cumulative number of days the equipment is expected to be on the site. No diesel-powered trucks may be brought onsite until this information has been submitted. Within 5 days of the end of each month, the contractor shall submit a report detailing the actual usage of the trucks during the previous month and the required information about trucks expected to be used during the current month.

5.0 Diesel Retrofit

Requirements

All Contractor and sub-contractor diesel powered non-road construction equipment with engine horsepower (HP) ratings of 60 HP and above that are assigned to the contract for a period in excess of 30 cumulative calendar days over the life of the project shall be retrofitted with Emission Control Devices in order to reduce diesel emissions. The Retrofit

Emission Control Devices shall consist of oxidation catalysts, or similar retrofit equipment control technology that (1) is included on the Environmental Protection Agency (EPA) *Verified Retrofit Technology List* and (2) is verified by EPA or certified by the manufacturer to provide a minimum emissions reduction of 20% PM₁₀, 40% CO, and 50% HC.

Exemptions

This requirement does not apply:

1. If the vehicle or equipment is either EPA Tier 2, 3 or 4 Rule compliant; or
2. To on-road vehicles and equipment. However, Contractors, Subcontractors and Suppliers that transport materials regularly to and from the project sites are encouraged to follow these requirements to the best of their ability.

Reporting Requirements

Construction shall not proceed until the contractor submits a list of the non-road diesel powered construction equipment that will be used onsite during the initial month of onsite work. The list shall include (1) the equipment number, type, make, and contractor/sub-contractor name; (2) the emission control device make, model and EPA verification number; (3) the type and source of fuel to be used; and (4) total cumulative number of days on the site. The contractor shall submit monthly summary reports, updating the same information stated above. The addition or deletion of non-road diesel equipment shall be included on the monthly report.

6.0 Anti-Idling Restrictions

Requirements

No contractor will allow any diesel-fueled commercial motor vehicles or diesel non-road construction equipment to idle for a period greater than 5 minutes.

Exemptions

The following activities are exempt from this requirement:

1. Idling when the vehicle must remain motionless due to traffic conditions, an official traffic control device, or an official traffic control signal over which the driver has no control, or at the direction of a police officer;
2. Idling of the primary engine or operating when forced to remain motionless due to immediate adverse weather conditions affecting the safe operation of the vehicle or due to mechanical difficulties over which the driver has no control;

3. Idling of the primary engine or operating a diesel-fueled is mandatory for testing, servicing, repairing, or diagnostic purposes;
4. Idling to verify that the vehicle is in safe operating condition as required by law and that all equipment is in good working order, either as part of a daily vehicle inspection or as otherwise needed, provided that such engine idling is mandatory for such verification;
5. Idling of the primary diesel engine outside of the hours of 7 AM – 5 PM when it is necessary to power a heater, air conditioner, or any ancillary equipment during sleeping or resting in a sleeper berth while on the project site;
6. Idling of the primary engine or operating a diesel-fueled authorized emergency vehicles while in the course of providing services for which the vehicle is designed; or
7. Idling during periods when ambient temperatures are less than 30 degrees Fahrenheit.

Reporting Requirements

There are no special reporting requirements under the anti-idling policy.

7.0 Use of Ultra Low Sulfur Diesel Fuel

Requirements

The contactor and subcontractor shall fuel all onroad construction and non-road diesel vehicles and equipment with only ultra low-sulfur diesel fuel with sulfur content of 15 ppm or lower. It should be noted that ULSD fuel is readily available in the project area. In addition, it should be noted that the requirements stated herein are compatible with current Federal requirements for the use of ULSD fuel for on-road vehicles, but in advance of the 2010 Federal requirements for the use of ULSD fuel for off-road vehicles.

Exemptions

This requirement does not apply to fueling activities outside the National Capital Region unless required by law.

Reporting Requirements

The contactor and/or subcontractor shall record and maintain onsite record of all fuel deliveries to the site. Documentations shall include information suitable for verification of the ULSD requirements.

8.0 Required By Law

Requirements

All construction should be accomplished in full compliance with the Virginia Regulations for the Control and Abatement of Air Pollution, particularly 9 VAC 5, Chapter 40, Part II. Articles of particular relevance are:

1. Article 1, Visible Emissions and Fugitive Dust/Emissions (9 VAC 5-40-60 to 120);
2. Article 39, Asphalt Paving Operations (9 VAC 5-40-5490 to 5590);
3. Article 40, Open Burning (9 VAC 5-40-5600 to 5645);
4. Article 42, Portable Fuel Containers Spillage Control (9 VAC 5-40-5700 to 5770);
5. Article 49, Architectural and Industrial Maintenance Coatings (9 VAC 5-40-7120 to 7230); and
6. Article 50, Consumer Products (9 VAC 5-40-7240 to 7360).

This listing is not all-inclusive; contractors should ensure compliance with all applicable Virginia air pollution control regulations.

Exemptions

There are no exemptions. Mandatory compliance with all laws of the Commonwealth of Virginia is required.

Reporting Requirements

There are no special reporting requirements.

9.0 Compliance Plan and Affirmative Commitment

Requirements

Construction shall not proceed until the contractor submits a plan outlining policies, procedure and systems to ensure compliance with this guidance to the ACO to be approved by Fort Belvoir ENRD. Included in the plan will be a Certificate of Intention to Comply signed by a responsible contractor representative. An example has been attached to this plan.

Exemptions

1. Outside the ozone season (April 1 through October 31) construction may begin without an approved plan to comply. However, a plan must be approved within 30 days of notice to proceed is given or April 1st which ever comes first.

Reporting Requirements

There are no special additional reporting requirements.

10.0 Enforcement

During the construction phase of the Fort Belvoir BRAC action, Administrative Contracting Officers (ACO) and their agents are anticipated to number 100 or more. One of their primary responsibilities will be to monitor and inspect the activities of the contractors and subcontractors performing the work and they will have the authority and responsibility to insure compliance with the policies and procedures outlined in this plan. All work shall be conducted under the general direction of the ACO and is subject to Government inspection at all places and at all reasonable times to ensure strict compliance (FAR 52.246-12).

The contractor holds an affirmative obligation to maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to these requirements. The Contractor shall maintain complete inspection records and make them available to the Government.

The Administrative Contracting Officer maintains the authority, by written order to the Contractor, to require the Contractor to stop all, or any part, of the work (FAR 52.242-15). When the ACO, or their agent, determines a violation of policies and procedures outlined in this guidance exists, he/she will notify the Contractor in writing within one business day, and direct the Contractor to correct the deficiency within a specified timeframe. The specified timeframe, which begins upon Contractor notification, will be from immediately to 24 hours long, based on the urgency of the situation and the nature of the deficiency. The ACO or their agent shall be the sole judge of these conditions. Upon receipt of the order, the Contractor shall, at their own expense, immediately comply with its terms and take all reasonable steps to come into compliance with policies and procedures outlined in this guidance.

If a Contractor or sub-contractor accumulates three (3) violations for the same issue, all Contractor operations will be shut down at their own expense until the deficiency is corrected and additional systems and controls are put in place to ensure future compliance.

Attachment 1 – Equipment Worksheet(s)

FORT BELVOIR BRAC ACTION AND ASSOCIATED PROJECTS
CONTRACTOR EQUIPMENT LISTING

Construction Air Quality – Diesel Vehicle Emissions Control

Month, Year: _____

Machine #	Description	Unit #	Serial #	Year	Horsepower Rating	Tier	Date Retrofitted (if applicable)	Number of Days on Site (Cumulative)	On Road Truck (Y/N)	Off Road Truck (Y/N)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										

Certify the above information is accurate.

Company _____

Print Name _____

Title _____

Signature _____

Date _____

Dates Code Orange Limitation was enacted _____

REVIEWED BY: _____

Attachment 2 – Certificate of Intention to Comply

CERTIFICATE OF INTENTION TO COMPLY

FOR

***Construction Performance Plan for the Reduction of Air Emissions for
Implementation of 2005 Base Realignment and Closure (BRAC)
Recommendations and Related Army Actions at Fort Belvoir, Virginia***

I, authorized signatory for _____,
whose principal place of business is at _____,
do hereby certify our intent to comply with the Construction Performance Plan for the
Reduction of Air Emissions for Implementation of 2005 Base Realignment and Closure
(BRAC) Recommendations and Related Army Actions at Fort Belvoir, Virginia. The
requirements herein included but are not limited to:

- Limiting construction on Code Orange, Red and Purple ozone days;
- Limiting the use of off-road trucks on the project site;
- Requiring all non-road diesel equipment not meeting Tier 2 or better standards be retrofitted with emission control devices;
- Implementing anti-idling restrictions for both onroad and non-road vehicles and equipment;
- The use of Ultra-Low Sulfur Diesel (ULSD), alternate fuels or fuel additives; and
- Meeting new engine standards for nonroad vehicles.

I acknowledge that this certificate is being furnished as a requirement under this contract, and is
subject to applicable, State and Federal Laws, both criminal and civil.

Date

Signature

Printed Name and Title

Appendix F

***Economic Impact Forecast System (EIFS) Analysis
and Population Estimations***

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ECONOMIC IMPACT FORECAST SYSTEM (EIFS) MODEL

SOCIOECONOMIC IMPACT ASSESSMENT

Socioeconomic impacts are linked through cause-and-effect relationships. Military installation payrolls and local procurement contribute to the economic base for the ROI. In this regard, construction of facilities at the GSA site, Victory Center, or Mark Center would have a multiplier effect on the local and regional economy. With the proposed action, direct jobs would be created, generating new income and increasing personal spending. This spending generally creates secondary jobs, increases business volume, and increases revenues for schools and other social services.

THE ECONOMIC IMPACT FORECAST SYSTEM

The U.S. Army, with the assistance of many academic and professional economists and regional scientists, developed EIFS to address the economic impacts of NEPA-requiring actions and to measure their significance. As a result of its designed applicability, and in the interest of uniformity, EIFS should be used in NEPA assessments for BRAC. The entire system is designed for the scrutiny of a populace affected by the actions being studied. The algorithms in EIFS are simple and easy to understand, but still have firm, defensible bases in regional economic theory.

EIFS was developed under a joint project of the U.S. Army Corps of Engineers (USACE), the U.S. Army Environmental Policy Institute, and the Computer and Information Science Department of Clark Atlanta University. EIFS is implemented as an on-line system supported by the U.S. Army Corps of Engineers, Mobile District. The system is available to anyone with an approved user ID and password. USACE staff is available to assist with the use of EIFS.

The databases in EIFS are national in scope and cover the approximately 3,700 counties, parishes, and independent cities that are recognized as reporting units by federal agencies. EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers and other variables used in the various models in EIFS, and prompts the user for forecast input data.

THE EIFS MODEL

The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to estimate the impacts resulting from Army-related changes in local expenditures or employment. In calculating the multipliers, EIFS uses the economic base model approach, which relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is defined as the production or employment engaged to supply goods and services outside the ROI or by federal activities (such as military installations and their employees). According to economic base theory, the ratio of total income to basic income is measurable (as the multiplier) and sufficiently stable so that future changes in economic activity can be forecast. This technique is especially appropriate for estimating aggregate impacts and makes the economic base model ideal for the EA and EIS process.

The multiplier is interpreted as the total impact on the economy of the region resulting from a unit change in its base sector; for example, a dollar increase in local expenditures due to an expansion of its military installation. EIFS estimates its multipliers using a location quotient approach based on the concentration of industries within the region relative to the industrial concentrations for the nation.

The user inputs into the model the data elements that describe the Army action: the change in expenditures, or dollar volume of the construction project(s); change in civilian or military employment; average annual income of affected civilian or military employees; the percent of civilians expected to relocate due to the Army's action; and the percent of military living on-post.

Once these are entered into the EIFS model, a projection of changes in the local economy is provided. These are projected changes in sales volume, income, employment, and population. These four indicator variables are used to measure and evaluate socioeconomic impacts. Sales volume is the direct and indirect change in local business activity and sales (total retail and wholesale trade sales, total selected service receipts, and value-added by manufacturing). Employment is the total change in local employment due to the proposed action, including not only the direct and secondary changes in local employment, but also those personnel who are initially affected by the military action. Income is the total change in local wages and salaries due to the proposed action, which includes the sum of the direct and indirect wages and salaries, plus the income of the civilian and military personnel affected by the proposed action. Population is the increase or decrease in the local population as a result of the proposed action.

All three alternative sites would require generally similar construction activities. Therefore, one EIFS model run was conducted for all three alternatives. The current working estimate for the cost of demolition and construction for the GSA site (\$851,000,000), expected to be the larger cost among the alternatives, was divided over the projected 2-year development period and entered in the EIFS model as the change in expenditures (\$425,500,000 per year). The EIFS report results are presented below.

THE SIGNIFICANCE OF SOCIOECONOMIC IMPACTS

Once model projections are obtained, the Rational Threshold Value (RTV) profile allows the user to evaluate the significance of the impacts. This analytical tool reviews the historical trends for the defined region and develops measures of local historical fluctuations in sales volume, income, employment, and population. These evaluations identify the positive and negative changes within which a project can affect the local economy without creating a significant impact. The greatest historical changes define the boundaries that provide a basis for comparing an action's impact on the historical fluctuation in a particular area. Specifically, EIFS sets the boundaries by multiplying the maximum historical deviation of the following variables:

		<u>Increase</u>	<u>Decrease</u>
Sales Volume	X	100%	75%
Income	X	100%	67%
Employment	X	100%	67%
Population	X	100%	50%

These boundaries determine the amount of change that will affect an area. The percentage allowances are arbitrary, but sensible. The maximum positive historical fluctuation is allowed with expansion because economic growth is beneficial. While cases of damaging economic growth have been cited, and although the zero-growth concept is being accepted by many local planning groups, military base reductions and closures generally are more injurious to local economics than are expansion.

The major strengths of the RTV are its specificity to the region under analysis and its basis on actual historical data for the region. The EIFS impact model, in combination with the RTV, has proven successful in addressing perceived socioeconomic impacts. The EIFS model and the RTV

technique for measuring the intensity of impacts have been reviewed by economic experts and have been deemed theoretically sound.

The following are the EIFS input and output data for construction and the RTV values for the ROI. These data form the basis for the socioeconomic impact analysis presented in Section 3.9.2.

EIFS REPORT

PROJECT NAME: BRAC 133 EA: *Alternatives A, B, and C*

STUDY AREA

24033 Prince George's, MD	51600 Fairfax City, VA
51013 Arlington, VA	51610 Falls Church, VA
51059 Fairfax County, VA	51683 Manassas, VA
51153 Prince William, VA	51685 Manassas Park, VA
51510 Alexandria, VA	

FORECAST INPUT

Change In Local Expenditures	\$425,500,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Military Living On-post	0

FORECAST OUTPUT

Employment Multiplier	2.65	
Income Multiplier	2.65	
Sales Volume – Direct	\$425,500,000	
Sales Volume – Induced	\$702,075,000	
Sales Volume – Total	\$1,127,575,000	0.86%
Income – Direct	\$94,991,040	
Income - Induced	\$156,735,200	
Income – Total (place of work)	\$251,726,300	0.31%
Employment – Direct	1889	
Employment – Induced	3117	
Employment – Total	5006	0.34%
Local Population	0	
Local Off-base Population	0	0.00%

RTV SUMMARY

	Sales Volume	Income	Employment	Population
Positive RTV	12.51%	11.47%	4.36%	1.46%

Negative RTV	-6.02%	-4.28%	-3.67%	-0.85%
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RTV DETAILED**SALES VOLUME**

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	4315330	18857992	0	0	0
1970	4845556	20012147	1154155	-433154	-2.16
1971	5485910	21724204	1712057	124748	0.57
1972	6157481	23583152	1858948	271639	1.15
1973	6921790	24987661	1404509	-182800	-0.73
1974	7569373	24600462	-387199	-1974508	-8.03
1975	8318644	24789559	189097	-1398212	-5.64
1976	9198806	25940632	1151073	-436236	-1.68
1977	10219281	26978903	1038271	-549038	-2.04
1978	11399547	28042886	1063983	-523326	-1.87
1979	12826638	28346870	303984	-1283325	-4.53
1980	14575783	28277020	-69851	-1657160	-5.86
1981	16382730	28833605	556585	-1030724	-3.57
1982	17823318	29586707	753103	-834206	-2.82
1983	19869709	31990232	2403524	816215	2.55
1984	22868798	35217948	3227716	1640407	4.66
1985	25966857	38690617	3472669	1885360	4.87
1986	28857303	42131663	3441046	1853737	4.4
1987	32239677	49971498	7839834	6252525	12.51
1988	35689264	48537400	-1434098	-3021407	-6.22
1989	38707045	49932087	1394687	-192622	-0.39
1990	40496066	49810162	-121925	-1709234	-3.43
1991	41390613	48840921	-969241	-2556550	-5.23
1992	43944466	50096691	1255769	-331540	-0.66
1993	46214407	51297992	1201302	-386007	-0.75
1994	48299384	52163337	865344	-721965	-1.38
1995	50543369	53070535	907198	-680111	-1.28
1996	53945877	55024794	1954258	366949	0.67
1997	58035490	58035490	3010696	1423387	2.45
1998	62037918	60797161	2761671	1174362	1.93
1999	66955846	64277611	3480450	1893141	2.95
2000	74894480	69651867	5374256	3786947	5.44

INCOME

Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	7042192	30774378	0	0	0
1970	7944829	32812145	2037766	51628	0.16
1971	8763480	34703381	1891236	-94902	-0.27
1972	9639634	36919797	2216416	230278	0.62
1973	10653761	38460076	1540279	-445859	-1.16
1974	11697097	38015565	-444511	-2430649	-6.39
1975	12861586	38327527	311961	-1674177	-4.37
1976	14182745	39995340	1667813	-318325	-0.8
1977	15626481	41253911	1258572	-727566	-1.76
1978	17407835	42823275	1569363	-416775	-0.97
1979	19585391	43283715	460440	-1525698	-3.52
1980	22500106	43650207	366492	-1619646	-3.71
1981	25359171	44632141	981934	-1004204	-2.25
1982	27654580	45906602	1274461	-711677	-1.55
1983	30174152	48580385	2673783	687645	1.42
1984	33973706	52319506	3739121	1752983	3.35
1985	37476504	55839991	3520485	1534347	2.75
1986	40830084	59611924	3771933	1785795	3
1987	44888754	69577567	9965642	7979504	11.47
1988	49552091	67390844	-2186722	-4172860	-6.19
1989	53634996	69189143	1798298	-187840	-0.27
1990	57084020	70213346	1024203	-961935	-1.37
1991	59649578	70386499	173153	-1812985	-2.58
1992	62806000	71598839	1212340	-773798	-1.08
1993	66143042	73418778	1819938	-166200	-0.23
1994	69536877	75099830	1681053	-305085	-0.41
1995	72356931	75974774	874944	-1111194	-1.46
1996	75687242	77200985	1226211	-759927	-0.98
1997	80417535	80417535	3216550	1230412	1.53
1998	86528614	84798043	4380508	2394370	2.82
1999	93205960	89477720	4679676	2693538	3.01
2000	101430952	94330786	4853066	2866928	3.04

EMPLOYMENT

Year	Value	Change	Deviation	%Deviation
1969	571053	0	0	0
1970	595617	24564	-8062	-1.35
1971	624932	29315	-3311	-0.53
1972	653343	28411	-4215	-0.65
1973	693714	40371	7745	1.12
1974	708548	14834	-17792	-2.51
1975	721364	12816	-19810	-2.75
1976	737310	15946	-16680	-2.26
1977	763698	26388	-6238	-0.82
1978	801406	37708	5082	0.63
1979	833748	32342	-284	-0.03
1980	863511	29763	-2863	-0.33
1981	881460	17949	-14677	-1.67
1982	892884	11424	-21202	-2.37
1983	936877	43993	11367	1.21
1984	1013719	76842	44216	4.36
1985	1093523	79804	47178	4.31
1986	1168477	74954	42328	3.62
1987	1243286	74809	42183	3.39
1988	1291482	48196	15570	1.21
1989	1337643	46161	13535	1.01
1990	1350789	13146	-19480	-1.44
1991	1311545	-39244	-71870	-5.48
1992	1305289	-6256	-38882	-2.98
1993	1335893	30604	-2022	-0.15
1994	1370271	34378	1752	0.13
1995	1399318	29047	-3579	-0.26
1996	1436739	37421	4795	0.33
1997	1479028	42289	9663	0.65
1998	1508923	29895	-2731	-0.18
1999	1550965	42042	9416	0.61
2000	1615097	64132	31506	1.95

POPULATION

Year	Value	Change	Deviation	%Deviation
1969	1500369	0	0	0
1970	1552892	52523	22595	1.46
1971	1588901	36009	6081	0.38
1972	1633705	44804	14876	0.91
1973	1641519	7814	-22114	-1.35
1974	1643560	2041	-27887	-1.7
1975	1651771	8211	-21717	-1.31
1976	1667467	15696	-14232	-0.85
1977	1669200	1733	-28195	-1.69
1978	1687132	17932	-11996	-0.71
1979	1695073	7941	-21987	-1.3
1980	1723392	28319	-1609	-0.09
1981	1759865	36473	6545	0.37
1982	1788222	28357	-1571	-0.09
1983	1819301	31079	1151	0.06
1984	1861289	41988	12060	0.65
1985	1903896	42607	12679	0.67
1986	1949894	45998	16070	0.82
1987	1996544	46650	16722	0.84
1988	2047969	51425	21497	1.05
1989	2085342	37373	7445	0.36
1990	2116429	31087	1159	0.05
1991	2153350	36921	6993	0.32
1992	2188585	35235	5307	0.24
1993	2216652	28067	-1861	-0.08
1994	2248485	31833	1905	0.08
1995	2276549	28064	-1864	-0.08
1996	2311052	34503	4575	0.2
1997	2339256	28204	-1724	-0.07
1998	2373196	33940	4012	0.17
1999	2413968	40772	10844	0.45
2000	2458075	44107	14179	0.58

***** End of Report *****



FAIRFAX COUNTY
PUBLIC SCHOOLS

Jack D. Dale, Superintendent

8115 Gatehouse Road
Falls Church, Virginia 22042

August 1, 2007

Colonel Brian W. Lauritzen
Garrison Commander
U.S. Army Garrison Fort Belvoir
9820 Flagler Road
Fort Belvoir, VA 22060

Dear Colonel Lauritzen:

It is with great disappointment, I report that the Fort Belvoir Base Realignment and Closure (BRAC) Final Environmental Impact Statement (EIS) **does not** address any of the concerns which had been previously articulated in my letter to the Army, concerns which were also referenced in a letter from Fairfax County Board of Supervisors Chairman Gerry Connolly.

Despite the capacity analysis which demonstrated a significant shortage of classroom space projected for those schools most likely to be impacted, the final EIS merely reiterates a projected school impact of 3,258 school-aged children within the local 'region of influence' (ROI). In what appears to be a contradiction, however, the EIS also minimizes the reported impact by stating that the impact would likely be less; that no re-located employees are required to move; that the anticipated population increase due to BRAC activity "would be less than one percent of the 2010 Fairfax County population forecast", and that local effects "would be expected to be minor to moderate".

I cannot agree that the local effects would be 'minor or moderate' as stated in the EIS. The local effects would require Fairfax County Public Schools to accommodate an influx of approximately 3,000 students. The "minor to moderate" effect would result in a need to construct the capacity equivalent of 1.95 elementary schools and .32 middle school. This potential expense of \$77.1 million represents nearly 10% of the five year Capital Improvement Program.

The Final EIS speculates that the impact would likely be less due to the potential for some students to be home-schooled, attend private schools, or due to some families moving into the areas around Ft. Belvoir, replacing families moving away. However, no evidence to support these assumptions is provided nor does the report indicate how much less than the reported 3,258 students could be anticipated.

Finally, and most incredibly, the EIS indicates that the vast majority of people moving into the area would be federal civilian employees and contractors who would be "tax-paying citizens" and that "their tax dollars would support public services." Residential tax dollars are not sufficient to pay for public facilities. Through the County's Comprehensive Policy Plan, Residential Density Criteria, and development review process, monetary contributions are routinely proffered by developers seeking approval for residential rezoning applications in order to help off-set the cost of school capital facilities. A private development which resulted in excess of over 3,000 new students would be expected to provide a significant monetary contribution to off-set impacts to school capital facilities.

Colonel Brian W. Lauritzen, Commander
Page 2
August 1, 2007

On behalf of Fairfax County Public Schools and members of the Fairfax County School Board, I thank you for the opportunity to comment on the Final EIS for the impending BRAC action. FCPS continues to encourage coordination between the Army's project consultants as the EIS moves forward to the Record of Decision and implementation. Our points of contact are Dean Tistadt, chief operating officer (703-246-6950), and Gary Chevalier, director, Office of Facilities Planning Services (703-246-6920).

Thank you for your attention and for your consideration of our comments.



Jack D. Dale
Superintendent of Schools

JDD/lms

cc: John Warner, U.S. Senate
Jim Webb, U.S. Senate
Thomas M. Davis III, U.S. House of Representatives
James P. Moran, U.S. House of Representatives
Frank R. Wolf, U.S. House of Representatives
Fairfax County School Board
Fairfax County Board of Supervisors
Dean A. Tistadt, Chief Operating Officer, FCPS
Gary Chevalier, Director, Office of Facilities Planning Services, FCPS
Kevin Sneed, Director, Design and Construction, FCPS
James P. Zook, Director, Department of Planning and Zoning



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT BELVOIR
9820 FLAGLER ROAD, SUITE 213
FORT BELVOIR, VIRGINIA 22060-5928

REPLY TO
ATTENTION OF

September 4, 2007

Office of the Installation Commander

Dr. Jack D. Dale
Superintendent
Fairfax County Public Schools
8115 Gatehouse Road
Falls Church, Virginia 22042

Dear Dr. Dale:

Thank you for your letter of August 1 expressing your continued concern over the potential impact on Fairfax County Public Schools of Fort Belvoir's realignment under the 2005 Base Realignment and Closure legislation. I assure you that, as both Installation Commander and parent of children attending public school in Fairfax County, the issue is a high priority for me.

The concerns you expressed to me in the spring during the public comment period for the Draft Environmental Impact Statement were very much taken into account as the Final EIS was prepared. Your April 27, 2007 letter was incorporated in its entirety in the FEIS and appears on page 109 of Appendix K. As a result of your comments and those of many other concerned citizens about the impact of schools, the EIS discussion of potential impact was revised and is provided in both Chapters 4 and 5 of the FEIS.

In addition, we are working this issue closely with Dean Tistadt, Gary Chevalier, and others of your planning staff. At an August 3 meeting with me and the analysts who prepared the EIS, Dean and Gary requested an estimate of the net number of school children that could enter the FCPS due to the regional BRAC actions. This net number would take into account not only those children entering Fairfax County due to the Fort Belvoir BRAC action, but also those leaving the county due to other, non-Belvoir related BRAC actions that will occur in the National Capital Region (NCR) over the next four years. This information was provided at a follow-up meeting August 22 between the FCPS planners and our analysts. The net number is significant when you consider the special and unique characteristics of living and working in the NCR. The analysis must balance consideration of the number of children entering the region with the number of children leaving the region under other BRAC actions.

In Section 4.10.2.2.2 of the FEIS, it was estimated that 3,258 school-age children could move into Fairfax County as a result of the Fort Belvoir BRAC action. In Section 5.10.2, it was projected that about 12,700 children could leave the National Capital region due to other BRAC actions, assuming that 100 percent of the parents chose to follow their jobs. However, the EIS assumed only 50 percent of the employees affected by the Fort Belvoir BRAC action would relocate with their job (see Section 4.10.2.1.2).

“EXCELLENCE THROUGH SERVICE”

To be consistent, applying this assumption to the other BRAC actions would result in half of the children, or 6,350 school-age children ($12,700 \times 0.50 = 6,350$) moving out of the NCR. The residential distribution of the employees affected by these other BRAC actions at the county level is not known. Therefore, to estimate the distribution of children that would leave the "region of influence" (ROI, which is defined as the Washington, D.C. Metropolitan Statistical Area) due to these other BRAC actions, the analysts applied a weighted average distribution of the outgoing BRAC population within the ROI (e.g., an estimated 46 percent of the outgoing BRAC population resides in Fairfax County).

On the basis of this assumption, about 2,920 school-age children (elementary through high school) would leave Fairfax County ($6,350 \times 0.46 = 2,921$). If the Belvoir BRAC action has the potential to bring 3,258 school-age children to the Fairfax County schools, but other BRAC actions could remove 2,920 children from Fairfax County schools, there would be a net increase of about 337 children in Fairfax County schools ($3,258 - 2,921 = 337$). The net impact on FCPS could be reduced further because of children attending private school or being home-schooled, as opposed to attending a FCPS. According to U.S. Census data, about 20 percent of children enrolled in school in Fairfax County are enrolled in private school, and, according to Virginia Department of Education statistics, about 1 percent of the Fairfax County children enrolled in school are home-schooled or have religious exemptions. Subtracting 21 percent from the estimated net number of children (about 337) that potentially could relocate to Fairfax County due to BRAC actions equates to about 70 children that would enroll in private school or be home-schooled ($337 \times 0.21 = 71$). This would further reduce the net number of children entering Fairfax public schools to about 266 ($337 - 71 = 266$).

It should be noted that the people associated with the jobs coming to Fort Belvoir already live in the NCR, currently commute on its roads and public transportation system, and have children in the region's schools. Because of this, the assumption that 50 percent of the employees affected by the Fort Belvoir BRAC action would relocate is considered a worst-case scenario. In support of this are the results of a study of a mid-1990's BRAC action that was very similar to the proposed Fort Belvoir action. In 1995, the Naval Air System Command was realigned from Crystal City to Patuxent River Naval Air Station in southern Maryland, a transfer of 6,000 jobs. As reported July 23, 2007, in the Asbury Park Press (see, "*Md. Sees few fort workers following jobs*," enclosed), the study found that 80 percent of the workforce members chose to remain at their current residence and commute about 40 miles to Patuxent, rather than move closer to Patuxent.

Additional factors are that some employees whose jobs will move to Fort Belvoir would see a reduction in their commute. Employees who live to the south in Prince William County, Stafford County, or Fredericksburg and currently work in Arlington, Crystal City, Alexandria, Reston, or Washington, D.C. would have a shorter commute once their job is reassigned to Fort Belvoir. It is reasonable to assume that these families would not move, and therefore would have no effect on schools. In addition, a constraint on whether employees would move is the availability and affordability of housing in the vicinity of Fort Belvoir.

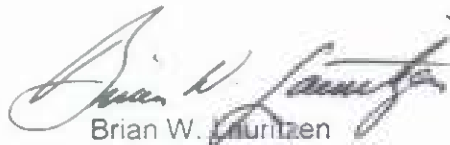
Other school officials have noted the point about housing availability. On August 13, for example, in "*Fairfax County school enrollment continues flat as neighbors boom*" (Washington Examiner, enclosed), Chairman Dan Storck suggests that, "The county has basically been built out. We don't have very much in the way of open space any more to build tracts of housing." The article further notes that Fairfax has an increasingly aging population that isn't putting large numbers of new students into the system.

Finally, as you now know, the numbers used in the FEIS completed in July were based on the then-projected gain at Fort Belvoir of 22,000 jobs. The ROD signed on August 7 officially reduced that number to 19,000. It is thus reasonable to expect a commensurate reduction in the "worst case" impact on the region's schools.

Fort Belvoir, the Army and the DOD are committed to quality educational opportunity for our children. I assure you we will continue working closely with you and your staff to ensure we are adequately planning for the education of our children in the region's schools.

Please don't hesitate to contact me any time you wish to discuss the issues.

Sincerely,



Brian W. Munizien
Colonel, US Army
Installation Commander

Enclosures

cc:

John Warner, U.S. Senate
Jim Webb, U.S. Senate
Thomas M. Davis III, U.S. House of Representatives
Frank R. Wolf, U.S. House of Representatives
Fairfax County School Board
Fairfax County Board of Supervisors
Dean A. Tistadt, Chief Operating Office, FCPS
Gary Chevalier, Director, Office of Facilities Planning Services, FCPS
Kevin Sneed, Director, Design and Construction, FCPS
James P. Zook, Director, Department of Planning and Zoning

Md. sees few fort workers following jobs

Posted by the Asbury Park Press on 07/22/07

BY KEITH BROWN
STAFF WRITER

STORYCHAT: Post Comment

Two years after taking a hard line against the chief argument used by Fort Monmouth defenders during the 2005 Base Realignment and Closure proceedings, Maryland officials now admit the vast majority of fort workers will not move with their jobs.

Thomas E. Perez, director of Maryland's Department of Labor, Licensing and Regulation, said Friday the latest work force figures indicate about 70 percent of the jobs the state stands to gain as a result of the 2005 BRAC round will arrive without people to fill them.

"That is the current operating assumption," Perez said.

The low percentage of Fort Monmouth's workers who would be willing to move to Maryland's Aberdeen Proving Ground — which stands to gain the bulk of the fort's research and development mission if the post is closed by 2011 — was a chief argument against the fort's closure.

Commonly called the "brain drain" argument, New Jersey's congressional delegation and others argued two years ago that no more than 20 percent of post workers would be willing to move to Aberdeen.

"That should not be a surprise to anyone," said Frank Muzzi, co-founder of the Patriots Alliance, a nonprofit group of defense contractors, government leaders and others. The alliance is widely credited with arming the state's legislators with the research necessary to stave off the closure of the 90-year-old Army post, which is based in Eatontown, Tinton Falls and Oceanport. "Those numbers were provided to the government in our original study."

In addition to picking up about 9,000 civilian and military jobs from the closure of Fort Monmouth, Maryland also expects thousands from the expansion of the National Naval Medical Hospital at Bethesda, and additional influx at Fort Meade, among other military installations statewide.

All told, Maryland stands to gain between 45,000 and 60,000 jobs from BRAC decisions, which officials there have called the "largest job influx since WWII."

But while New Jersey officials repeatedly told the nine-member BRAC commission that only a fraction of post workers would relocate to keep their jobs, Maryland officials shot back in numerous letters to the commission casting aspersions on the "brain-drain" argument.

Among them is a July 25, 2005, letter addressed to BRAC commission Chairman Anthony Principi. It was signed by U.S. Sen. Barbara Mikulski, former Sen. Paul S. Sarbanes and U.S. Rep. C.A. "Dutch" Ruppersberger, all D-Md.

"Surveys measuring the number of workers who plan to move as a result of BRAC-related relocations are rarely accurate," the letter reads. "We believe a large portion of the Fort Monmouth work force will ultimately move to APG."

The letter cites the state's experience with the 1993 realignment of the Patuxent River Naval Air Station in southern Maryland. That DOD action moved much of the Naval Air System's Command from Crystal City, Va., to Patuxent — a gain of more than 6,000 jobs.

Virginia's argument against the move was in part based on estimates that only 20 percent of the Crystal City workers would relocate to Maryland, according to the letter.

"However, in practice, 80 percent followed their jobs to Patuxent River," it reads.

Although the number cited by Maryland officials seems to stand Virginia's predictions on its ear, the high number of workers who "followed their jobs" seems to be rooted in Crystal City's proximity to the Patuxent facility, according to a Sept. 22, 2006, study prepared for the Maryland Department of Transportation.

Crystal City is approximately 37 miles away from Patuxent, a daily one-way commute of less than an hour.

"Many employees from Crystal City, Virginia, chose to commute rather than move to St. Mary's County (in Maryland)," says the report, titled "Lessons Learned from the 1995 Patuxent River Naval Air Station Base Realignment and Closure Act Experience."

By comparison, Fort Monmouth is approximately 143 miles from Aberdeen Proving Ground, or about a 2 1/2-hour commute, one-way.

The letter credits cooperation among federal, state and local leaders that "made this relocation a success."

Buoyed by that experience, Ruppertsberger, Sarbanes and Mikulski said the state intends "to replicate this effort at APG."

In a separate letter — also dated July 25, 2005 — Ruppertsberger asserted Maryland's previous BRAC experience showed "up to 80 percent" of employees of realigned bases "ultimately relocating to maintain employment."

Perez, Maryland's labor department head, said the new relocation estimates are based on "previous experience with BRAC" and information provided by installations slated to move to the state, including Fort Monmouth.

"That's based on conversations we've had with leadership in Fort Monmouth, analysis of prior BRAC moves in terms of how many people tend to move," he said. "That's the best information that we currently have."

Keith Brown: (732) 643-4076 or kbrown@app.com

Fairfax County school enrollment continues flat as neighbors boom

William C. Flook, The Examiner
Aug 13, 2007 3:00 AM (7 days ago)

Fairfax -

Enrollment in Fairfax County schools this fall is expected to see only a small increase over the last year, part of a years-long trend of flattening growth in student population that contrasts sharply with the booms of the county's outlying neighbors.

Fairfax expects to have 164,490 students in its system this school year, a fewer than 1 percent increase over last year's 163,593. In fact, Fairfax's enrollment has been essentially flat since 2003. Officials say the trend is, in large part, due to a shrinking supply of buildable land that is constraining large-scale residential growth in Virginia's most populous county, which is also by far the commonwealth's largest school district.

"The county has basically been built out," School Board Chairman Dan Storck said. "We don't have very much in the way of open space any more to build tracts of housing."

Also, Storck said, high housing prices have kept many younger families from moving in, leaving Fairfax with an increasingly aging population that isn't putting large numbers of new students into the system.

The rapid growth Fairfax County's student body once saw appears to have shifted, however, to Loudoun and Prince William counties.

Prince William this year is set to surpass the city of Virginia Beach as Virginia's second largest school district, reaching 72,000 students after growing by more than 30 percent in the past seven years. The county expects to have about 2,000 more students than it did last school year.

Loudoun County Public Schools is at 53,000 children and growing by an even larger margin of 3,000 students a year, opening 25 new schools in the past seven years.

"Loudoun is the fastest growing county in America and that's just a trend that continues," Loudoun County Public Schools spokesman Wayne Byard said Friday. "We grow more in a year than the actual size of 61 school divisions, so it's like putting a little school division on top each year."

The trend is mirrored in other dense, urbanized areas of the commonwealth and their outer suburbs, said Virginia Department of Education spokesman Charles Pyle, who cited similar growth in Powhatan and Goochland County school districts outside of the Richmond area.

wflook@dcexaminer.com

Examiner